A Lecture
ON
CHRONIC DIARRHOEA IN THE ADULT.

DELIVERED AT THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

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IT is important to realize at the outset that diarrhoea is a symptom and not a disease in itself, and that if it is to be treated properly one must spare no pains to discover the nature and site of the disorder in the alimentary canal which is causing it. The routine prescription of an astringent mixture for every patient who complains of diarrhoea of some standing is particularly to be avoided.

In describing the chief varieties of chronic diarrhoea met with in practice it is necessary to adopt some form of classification. Our knowledge, however, is not yet sufficient to make any perfectly logical classification possible, and I propose, therefore, to group the chief varieties partly according to the site of the disorder to which the diarrhoea owes its origin, and partly according to the nature of the disturbance which exists. For clinical purposes this is, I think, the most satisfactory plan.

1. GASTROGENIC DIARRHOEA.

By gastrogenic diarrhoea one means a looseness of the bowels which is due to imperfect digestion in the stomach. It is by no means an uncommon variety, although it is not yet so well recognized as it ought to be. The defect in gastric digestion is due to an insufficient secretion of gastric juice, sometimes amounting to complete achylia. How this leads to diarrhoea is disputed, but it may either be that the absence of hydrochloric acid, which is the natural antiseptic of the alimentary canal, favours putrefactive and fermentative processes, or that the imperfectly dissolved food which leaves the stomach sets up irritation of the small intestine mechanically. The diarrhoea in these cases may last for years, although it often intermits for periods varying from weeks to months, but there is nothing characteristic about it. Nor, surprising though it may seem, is there necessarily any complaint of the ordinary symptoms of indigestion, although the appetite is usually impaired, especially—and this is rather suggestive—for meat. The diagnosis can therefore only be made by the use of the stomach tube after a test meal. It will then be found that little or no gastric contents can be obtained, and that the small quantity which comes away is very imperfectly digested, and shows but little acidity and no free HCl. The following is an illustrative case:

Mrs. D., aged 54, had suffered from almost constant diarrhoea for nine years. Her motions numbered from two to six daily and were watery in character, but contained no mucus or blood. She had always regarded her digestion as "quite good," but had "never been able to eat meat." Lately she had failed considerably in flesh and strength. Physical examination by the ordinary methods revealed nothing abnormal, but a test breakfast yielded a very small result, with a total acidity of only 5 and no free HCl.

Under treatment with hydrochloric acid and pepsine combined with a modified diet, she quickly lost her diarrhoea and gained a stone in weight in five months. She is now (six months after treatment was begun) in better health than she has enjoyed for years.

The treatment of gastrogenic diarrhoea is both simple and satisfactory. The principles of diet to be observed are to give all foods in a finely divided form, so that they will pass readily out of the stomach, and to reduce the amount of meat in the diet to a low level. Dilute hydrochloric acid should be given about half an hour after each meal in doses of from 15 to 30 minims. Any active preparation of pepsine may be given along with it, but the hydrochloric acid is much the most important. Acidol or acidol-pepsine may be used instead of hydrochloric acid, and has the convenience of being easily portable.

2. PANCREATIC DIARRHOEA.

Just as gastrogenic diarrhoea is due to absence of gastric juice, so the form of diarrhoea now to be described arises from a failure of the pancreatic secretion to enter the intestine. This may result from blocking of the pancreatic duct, from chronic pancreatitis, or from an apparently functional pancreatic achylia; but, however induced, the form of diarrhoea is quite characteristic, the stools being pale, or even quite white, in colour, greasy, very offensive, and containing on chemical examination an abnormally high proportion of unsplit fats. The following is an example:

Mr. X., aged 60, had suffered from diarrhoea, with white stools, for seven months, and had lost much weight. He attributed the origin of his troubles to an attack of "ptomaine poisoning" some two and a half years ago, since which time "his digestion has not been right." He looked ill and rather cachectic, and was considerably wasted, with a dry, harsh skin. Nothing definite could be made out on physical examination of the abdomen. The stools were colourless, and contained a large excess of fat. The pancreatic reaction in the urine was positive. A diagnosis of chronic pancreatitis was arrived at, and under treatment with pankreon the stools rapidly became normal in colour, the diarrhoea ceased, and he put on much weight.

Blocking of the pancreatic duct, with subsequent pancreatic diarrhoea, may sometimes result from the impaction of a gall stone at the lower end of the common duct. This was apparently the explanation of the following case:

Colonel L., aged 49, was suddenly seized, whilst travelling in the East three years before, with acute diarrhoea, the stools from the outset being quite white. From this attack he never really recovered, but suffered off and on from morning diarrhoea, with white milky and frothy motions. He had lost about 2 st. in weight. The case was at first regarded as one of "sprue," and he had had much treatment on that supposition without any real benefit. During the last six months he had suffered from several attacks of cramping pain in the epigastrium, which were attributed to "pyloric spasm." On examination he was found to be decidedly anaemic, but not jaundiced, very thin, and the skin dry. There was nothing definite to be made out in the abdomen. A few days afterwards he had three attacks of typical biliary colic in rapid succession, and passed a small stone the size of a pea. After this the stools became normal. A few months later several stones were removed from the gall bladder, since which time he has remained well.

A functional pancreatic achylia seems sometimes to occur as an inborn peculiarity, and to result in chronic diarrhoea of pancreatic character, with great impairment of growth and development. The so-called "pancreatic infantilism," described by Byrom Bramwell,[1] probably has this origin. It is possible, too, that defective pancreatic secretion plays a part in the production of the diarrhoea in cases of "coeliac disease," in which the stools have often the characteristic peculiarities.[2]

In the treatment of pancreatic diarrhoea, the amount of fat in the diet should be reduced as far as possible, and dextrinized or malted foods should replace starches to a large extent. An active pancreatic preparation, such as holadin or pankreon, should be administered about three hours after meals. In cases of chronic pancreatitis or blocking of the duct, surgical treatment is often of great service.

3. FERMENTATIVE DIARRHOEA.

There is a form of chronic diarrhoea occasionally met with which appears to be due to defective digestion of starch, although it is uncertain to what this is due. Men of about middle life seem to be most often affected, the symptoms consisting in the passage of frothy and very acid stools along with a good deal of intestinal flatulence. Microscopic examination of the stools reveals the presence of a large amount of unaltered starch. The treatment consists in reducing the amount of starch in the diet, and in the administration of calcium carbonate. Under this plan the symptoms quickly disappear.

4. ENTERITIS.

Chronic diarrhoea the result of catarrh of the small intestine (enteritis) is not so common as is often supposed; indeed, it must be regarded as distinctly rare in the adult. The most frequent causes of it are alcoholism, cirrhosis of the liver, and phthisis. The prolonged use of certain drugs also, such as arsenic and digitalis, is apt to excite it. The symptoms and appearance of the stools are not characteristic, although the presence of particles of bile-stained mucus on microscopic examination is said to be indicative of a catarrh in the small bowel. As a rule, however, the diagnosis has to be made by a process of exclusion. Sometimes the diarrhoea is so pronounced as quite to overshadow the primary disease with which it is

associated. Thus I remember a boy of 15 being brought to me to be dieted for a diarrhoea which had lasted more or less continuously for seven months. The diarrhoea was accompanied by a good deal of wasting, which was believed to be the consequence of it, but on making the usual routine examination I was surprised to find that he had a small cavity at the apex of one lung, and it was only on careful questioning that one elicited from the patient's father a history of cough of some standing. Tubercle bacilli were eventually found in the sputum, and under rest in bed, careful dieting and full doses of bismuth the patient improved sufficiently to be able to go to a sanatorium.

The diarrhoea in cases of phthisis is due, I believe, to catarrh of the small intestine, and not necessarily to ulceration. Indeed one sees cases of extensive ulceration in which there has been no looseness of the bowels.

The treatment of chronic enteritis is not an easy matter. In diet it is necessary to "individualize," as certain articles —for example, milk—which are useful in some cases are injurious in others. All mechanically, chemically, and thermally irritating foods, such as fruits, vegetables, alcohol, and sour things, iced foods and hot drinks, should be forbidden, and the diet confined to the lighter form of animal food and farinaceous articles. Chill should be carefully guarded against, and it is advisable for the patient to wear a warm abdominal belt. The most useful drugs are the carbonates of bismuth and calcium, which should be given in large doses along with carminatives, but tannic acid (for example, tannalbin) is also helpful. In some cases the best results are obtained from a saline aperient (for example, Carlsbad salt) given each morning. Treatment must always be persevering, and relapses are common.

5. Colonic Diarrhoea.

Disease of the colon is perhaps the commonest cause of chronic diarrhoea. The presence of visible mucus and blood in the motions always points to the colon as the seat of the mischief, but it must be remembered that in many cases these are absent, and the routine use of the sigmoidoscope in all cases of chronic looseness of the bowels is the only way to avoid error.

The three commonest causes of this variety of diarrhoea are (1) malignant disease, (2) catarrhal colitis, (3) ulcerative colitis. We may consider each of these separately.

(1) *Malignant Disease.*

It has probably happened to every one of experience in practice at some time or another to overlook malignant disease of the colon as the cause of a chronic diarrhoea. The mistake is easily made, for there is nothing characteristic about the diarrhoea which results from carcinoma of the colon. Not infrequently it exhibits the character of a "morning" diarrhoea, there being a tendency for an explosive action of the bowels to take place soon after waking, but this is by no means constant. Sometimes the mode of onset is very misleading, as in the following case:

Maria M., aged 51, had suffered from diarrhoea for about a year, the trouble beginning in the summer apparently as the result of eating some decomposed fish. The motions numbered from seven to eight daily, and often contained visible mucus and blood—sometimes they were "fermenting." She had lost about a stone in weight since the beginning of her illness. Physical examination revealed nothing beyond moderate wasting, and there was nothing to be felt on examination per rectum. On an exploratory operation being performed she proved to have a malignant growth in the upper part of the rectum.

Any one might have been excused for regarding this case as one of chronic catarrhal colitis, the result of an initial attack of ptomaine poisoning.

Carcinoma supervening upon an old-standing colitis is very apt to be overlooked. Thus I have known carcinoma develop in a colon which has been the seat of an ulcerative colitis for some years. In the following case it arose in a patient who had long been the subject of muco-membranous colitis:

Miss X., aged 50, had suffered for years from colitis and attacks of "congestion of the liver." She had had a great deal of treatment of various sorts, including a course of colon-douching at Harrogate, removal of the appendix, and a rest cure, with a certain amount of benefit, but lately she had lost weight rapidly and had fairly frequent and rather yellow motions. She proved to have a malignant ulcer of the rectum.

It should be specially noted that the fact that a patient is comparatively young is no bar to his having malignant disease of the colon—I have known it occur at 21—and that there may be no signs of cachexia until late in the disease. A very prolonged history of diarrhoea also does not exclude the possibility of malignant disease, as the following case exemplifies:

Miss W., aged 51, had had diarrhoea for two years, which varied greatly from day to day, the motions often amounting to eight in the twenty-four hours. They were usually light in colour, but occasionally contained mucus and dark blood. She had wasted considerably. On examination there was no marked cachexia and the abdomen showed nothing abnormal, but per rectum one could feel an indurated ulcer rather high up.

The moral of these cases is that one should insist upon an examination with the sigmoidoscope in all patients who suffer from chronic diarrhoea, as this is the only way of avoiding error. Even then one may occasionally be misled, as happened in the following case:

Albert R., aged 35, had suffered for five months from diarrhoea, supervening upon an attack of rheumatic fever, the motions numbering about eight daily. He was a well nourished man, but somewhat anaemic. A test meal showed total acidity 40; no free HCl. Examination with the sigmoidoscope, which was carried out by a careful surgeon, revealed nothing. On several occasions whilst the patient was under observation there was dark blood in the stools, and from time to time he passed pus and fibrous shreds in the urine. The cystoscope showed a condition of "cystitis cystica." As he steadily lost weight, he was explored, and a growth was found in the upper part of the sigmoid, which had a very voluminous loop, and the tumour had early become adherent to and infiltrated the bladder. The position of the growth accounted for its not being seen with the sigmoidoscope, and it was too small to feel bimanually. In an attempt to separate it the bowel ruptured, and the patient succumbed three days later.

(2) *Catarrhal Colitis.*

Catarrh of the colon is a common cause, perhaps one of the commonest, of chronic diarrhoea. The simplest cases are those which supervene upon an acute colitis which does not properly clear up. Examples of this are often met with in children, but may occur also in adults as a sequel of an attack of food poisoning. Of this I have met with many instances. The diarrhoea in these cases is often of the explosive "morning" type, whilst in the later part of the day the patient is comparatively comfortable, for example:

Thomas B., aged 36, had suffered from loose bowels for three or four years, but in the past year had been much worse, the motions often numbering nine daily. They usually came in the morning, the first stool being attended with some pain, but after he had been up for about three hours he found that "his inside settled down." Otherwise he counted himself a healthy man, though rather "nervous." He was a total abstainer. Whilst at rest in bed in hospital there was no diarrhoea, but the motions contained a good deal of mucus. The stomach contents showed a total acidity of 40; no free HCl. On examination with the sigmoidoscope the mucous membrane of the rectum and sigmoid was rather red and oedematous, but there was no ulceration. Under prolonged douching he improved greatly.

Examination with the sigmoidoscope in these cases shows a congested, velvety, or oedematous condition of the mucous membrane, attended perhaps with some superficial excoriation. Not infrequently the process is confined to a limited area of the bowel, such as the lower part of the sigmoid. Palpation of the abdomen often reveals slight thickening and tenderness in that region, and cramping pain is not uncommonly complained of in the left iliac fossa. It is probable that a similar localized catarrh may occur in other parts of the colon, especially, perhaps, in the neighbourhood of the ileo-caecal valve, and in such a case disease of the appendix may be closely simulated. It is possible, too, that in some instances the inflammatory process is actually kept up by an unhealthy state of the appendix, or by its adhesion to the colon.

The treatment of chronic diarrhoea arising from catarrh of the colon is not an easy matter. The diet should be regulated on the same lines as in enteritis. In recent cases small doses of castor oil and opium will often effect a cure, but in old-standing "morning diarrhoea" all one's medicinal resources may fail. Bismuth, zinc sulpho-carbolate, a morning dose of castor oil, or an evening one of Dover's powder, all have their advocates, and each may succeed in one case and fail in another. Local treatment in the form of counter-irritation over the sigmoid, and

washing out the bowel with plain saline or mild astringent solutions, such as ½ per cent. argyrol or protargol, is often more successful than anything else.

(3) *Ulcerative Colitis.*

Ulceration of the colon has become well recognized in recent years as a not uncommon cause of obstinate and chronic diarrhoea. In many cases the disease has originated in an attack of tropical dysentery, which the patient has never properly got over, but a certain number are met with in patients who have never been abroad. The relation of such cases to true dysentery is a matter which I do not propose to go into, as it is still the subject of dispute, and in any case is more of theoretical than practical importance. The stools in cases of ulcerative colitis, whether dysenteric or non-dysenteric in origin, tend to have more of the true colonic character than in any other form of diarrhoea, blood and mucus being usually present, whilst tenesmus is not infrequently complained of. One is aided in the diagnosis by a history of dysentery, but certainty can only be reached by the use of the sigmoidoscope.

The medical treatment of these cases is apt to be unsatisfactory, but in the milder cases one may achieve success by the use of the measures employed in catarrhal cases (see above). I have sometimes also had brilliant results from the prolonged use of an exclusive diet of peptonized milk. Vaccine treatment also has a limited sphere of usefulness, but chiefly as an aid to other methods; it is most likely to be successful when cultures yield an almost pure growth of some organism foreign to the bowel—for example, the pneumococcus. In cases in which there is a fairly recent history of acute dysentery ipecacuanha is worth a trial. It was brilliantly successful in the following case:

Alfred N., aged 35, a soldier, returned from India in December, 1905, and in February, 1907, began to suffer from diarrhoea, with the passage of blood and mucus, and attended by tenesmus. He had had several attacks of dysentery, not only in India, but also in Egypt and South Africa. No amoebae or dysentery bacilli were found in the stools, but only various types of *B. coli*. He was given pulverized ipecacuanha in large doses, beginning with 30 grains, the usual precautions being taken against vomiting, with the result that the diarrhoea immediately ceased and the motions became normal. He left the hospital apparently quite well.

In most cases of ulcerative colitis, however, whether dysenteric in origin or not, I believe appendicostomy to be the best treatment. How successful it may be the following cases show:

Mr. M., aged 34, came under observation in April, 1910. He had an attack of dysentery in Hong Kong in 1905, and in September, 1909, underwent an operation for liver abscess in Borneo. Diarrhoea ensued after this and had continued since. He had been treated with ipecacuanha in America without success.

The stools numbered about five daily, some of them containing blood and mucus. Abdominal examination elicited slight thickening and tenderness of the sigmoid. The sigmoidoscope showed the mucous membrane as high as it could be reached to be congested, covered with glairy mucus, and studded with numerous small superficial ulcers. Appendicostomy was performed by Mr. Furnivall, and the colon washed out daily with normal saline. Seven weeks later a second examination with the sigmoidoscope showed that the mucous membrane was entirely healed; the patient had lost his diarrhoea and had gained 2¼ st. in weight.

In the following case the benefit of the operation was even more striking:

Colonel E., aged 68, was first seen in July, 1907. In 1894 he left India on account of dysentery. On his return home he was treated with ipecacuanha and remained well for two years. The diarrhoea then returned and had persisted more or less ever since, in spite of treatment by various astringent medicines, by all sorts of diets, and by a course of Plombières douches.

On examination he was found to be anaemic but fairly nourished. The motions were small, frequent, extremely offensive, and contained blood and mucus; they were passed with much straining. The sigmoidoscope showed the colon to be studded with small ulcers for a distance of 20 cm. above the anus. Appendicostomy was performed and the colon washed out, first with saline and afterwards with weak protargol solution. Eighteen months later he wrote that he was perfectly well except for a slight tendency to constipation.

6. NERVOUS DIARRHOEA.

By nervous diarrhoea one means that form of chronic looseness of the bowels in which no organic disease or secretory defect is to be detected in the alimentary canal but in which the disorder appears to result from an exaggerated irritability of the nerve mechanism which controls peristalsis. Two types can be recognized. In one the action of the bowels tends to take place immediately after or even during meals. To this type the term "post-prandial" or "lienteric" diarrhoea is usually applied. It is specially common in children. The fault here appears to consist in an exaggeration of the normal reflex stimulation of peristalsis which always takes place to a slight degree when food enters the stomach. In the other type the diarrhoea is more affected by emotional impressions. Thus, in one of my patients, a harassed, over-driven business man of anxious temperament, it always tended to come on if he was so situated that he could not easily retire for an action of the bowels—for example, if he was travelling in a railway carriage without a lavatory compartment. In another, a society lady, the trouble was always most assertive whenever she had to attend some specially important function. I have also known it affect a nervous anaesthetist (a lady) whenever she had to give an anaesthetic for a particular and rather exacting surgeon, the sound of the latter's step on the stair leading to the operating theatre being enough immediately to induce an attack.

It is possible, I think, that in some of these cases there is really an underlying degree of catarrh of the colon, which causes the latter to respond forcibly to nervous impulses, which in a healthy individual would only be sufficient to produce a mild stimulation of peristalsis.

In the treatment of the nervous form of diarrhoea not much can be effected by diet, and in any case the condition is one of such chronicity that the patient has usually found from his own experience what it is well to avoid. In the lienteric type small doses of opium before meals act almost as a specific. I know that arsenic and nux vomica are often recommended in such cases, but for my own part I have found opium far superior to them in its power of controlling the disorder. In the emotional type opium should be reserved for use in emergencies and to enable the patient to have confidence in his bowels for particular occasions, whilst one should endeavour to allay the general condition of nervous irritability which underlies the condition by regulating the whole life and by the use of general sedatives, such as the bromides.

REFERENCES.

[1] *Scottish Medical and Surgical Journal*, xiv, 1904, p. 321. [2] See a paper by the author on Coeliac Disease, *Practitioner*, August, 1911.

THE RELATIONS OF BIOLOGY TO PATHOLOGY.

BY HASTINGS GILFORD, F.R.C.S.,

READING.

"We have viewed every anatomical and pathologic part as an entity, and man as an isolated phenomenon in Nature. May we not find in the laws of phylogeny and association the master key that will open to us the explanation of many of the pathologic phenomena as they have already explained many normal phenomena? And may medicine not correlate the pathologic phenomena of the sick man with the forces of evolution, as the naturalists have correlated the phenomena of the sound man, and disease as well as health be given its evolutionary setting?"—Crile, BRITISH MEDICAL JOURNAL, 1911, vol. ii, p. 945.

IT seems at first quite preposterous for any one to assert that the work of Pasteur and of Lister has in some respects had a retarding effect upon medical science. But that such is the case can, I think, be demonstrated beyond question. So strong has been the light which has been shed by the two great luminaries upon surgical pathology and upon some departments of medicine that other and quite as important departments have been thrown into the shade. We all know how Pasteur and Lister in more than one sense revived medicine and surgery, much as Schwann revived our conceptions of anatomy, and Virchow of morbid anatomy. Before the discoveries of Pasteur and of Lister surgery had arrived at a stage from which it could not advance. It had become stagnant or chrysalised. From this hidebound condition it was liberated as by an act of obstetrics into a far freer and more abundant life than it had ever known before, and the instrument by means of which this was accomplished was biology. And

not only was surgery biologized, but our ideas of pneumonia, of rheumatic fever, of tuberculosis, of syphilis, and of many other diseases have undergone similar emancipation.

Nevertheless, in spite of, as well as because of, this great and beneficent change, a large group of diseases still remains in almost as benighted a state in respect to our knowledge of its pathology as it was in the Sixties. That our understanding of bacteriology, instead of enlightening our darkness in regard to these diseases, has tended to their obscurity is shown in many ways, perhaps in no respect more emphatically than by the present status of clinical medicine as a science in comparison with bacteriology. The nomenclature which has cropped up about the new science is also eloquent of the same loss of prestige. Let us take for example the word "research." What can be more arrogant than the modern use of this word. It is applied almost exclusively to investigations into the minuter or more subtle forms of matter. Hence, he who undertakes a test tube investigation of the plague is a "researcher," and is employed in a "research," but he who does equally diligent work on the clinical aspects of, say, Bright's disease, or Hodgkin's disease, has no such dignity bestowed upon him. This use of the word "research" is based upon the tacit assumption that in the one case the worker is engaged in a veritable pioneer exploration, in the other he is not. However good the result of the clinical study may be to the individual, so far as the advancement of learning is concerned it is about as profitable as walking on a treadmill or flogging a dead horse.

There are other words or phrases which point even more definitely to the overwhelming predominance of bacteriological over clinical science. These are words or phrases appropriate to microbial disease, but sometimes forced out of their proper place to do duty in the non-microbial disorders. "Toxins of bacterial origin," "toxaemia of pregnancy," "autointoxication," "toxaemia," or "toxin" itself is full of meaning when appropriately applied in microbial disease, but is vapid, meaningless, and worse than useless as commonly applied to diseases other than microbial. Thus, when acute rheumatism or gonorrhoeal rheumatism is described as an intoxication a more apt and fitting word can hardly be imagined, for it is exactly appropriate to the circumstances. But when arthritis deformans is described as an intoxication, or, still worse, autointoxication, the term as we commonly use it is significant of nothing but a sort of mental flatulency on the part of the user or as a substitute for thought. In the one case the word rings true, as of a genuine coinage; in the other it is as flimsy, as unsubstantial, as a paper currency. Moreover, it has no basis of fact, and represents nothing save a bankrupt exchequer. Being at a loss to account for a disease, and having found bacteriology of so great value when properly applied, we think we cannot do better than foist off a bacteriological term in the hope that it may be accepted as a genuine explanation.

Much the same may be said of the use of these same words to such conditions as cirrhosis of the liver, pernicious anaemia, leukaemia, Graves's disease, progressive muscular atrophy, osteomalacia, muscular dystrophy, cancer. A toxin may in some cases give the malady its first impetus, or possibly may appear as an epiphenomenon in its course, but nothing seems clearer than that the morbid process is not toxic in nature, seeing that it may arise, run its course, and terminate under circumstances in which the toxins seem to play no part whatsoever.

The question now arises: If the disorders alluded to are not the work of micro-organisms, what is their pathology? It is hardly within the scope of this article adequately to answer this question, even if it be possible. One can go no farther than to ask that as surgery, midwifery, gynaecology have been so gloriously revived as the result of biology, ought we not to make use of a similar key in order to unlock the mysteries which are still concealed behind the names of diseases of unknown pathology, some of which have just been mentioned? Moreover, each and every disease of this group has been so often and so persistently regarded as a bacterial product, and with so little success, that it is surely time that we abandoned this department of biology and directed our attention to some other way of accounting for them. That they can be accounted for in another way is, I think, capable of proof. Fortunately, this proof requires no output of genius. All that is required is the use of an average intelligence, a little patience and ingenuity, the resolve to think biologically, not pathologically, and, above all, the ability to purge the mind of those preconceptions and prejudices which do more than anything else to obscure new issues. So equipped, and with the way clear, we find all the materials we require ready at hand and only waiting to be put together in their proper order.

These materials are the common biological facts of variation, heredity, adaptation to circumstances, correlation, interwoven in their proper order with the fleeting changes of age, or with the peculiarities incidental to sex. The doctrines of reversion and of the recapitulation of characters, the facts of comparative anatomy, of anthropology, of palaeontology, must be liberally drawn upon, and adequate allowance must be made for the different effects of similar circumstances upon single cells, upon cell communities or organs, and upon the man as a whole.

In the course of this inquiry we shall speedily realize to the full the reality of the gulf which separates the two groups. In the one group the component disorders are marshalled into systems and organized into a science; in the other group we see little more than a rabble of almost disconnected diseases. These latter do not as yet display any of that orderly arrangement of knowledge which constitutes a science; for, though it is true that their structure has been, and is being, worked out scientifically, this cannot be said of the diseases themselves. Their anatomy is scientific, but not their pathology.

We next find that the diseases in question differ radically from the microbial diseases, in that while the microbial disorders are the products of external agents, each member of this scattered horde is of intrinsic production, or, more accurately, the members of the one group are of contemporary and of the other group of prehistoric origin.

Our next step is to realize that this second group may be divided into two further groups. In the one the disorders are solely of intrinsic (or remoter) production; in the other they are fundamentally intrinsic, but are also in part the outcome of environment. To realize the significance of this division we must go to the doctrine of variation.

Biological variations have been divided by Bateson into two kinds—namely, those which consist in numerical changes, as in polydactylism, and those which consist in an alteration in constitution. It is the latter with which we are now concerned. Of these *substantive variations* some are more emphatic, spring into being with a leap, irrespective of environment, and are variously termed mutations, sports, discontinuous variations. These are handed down from generation to generation, unless of such a nature as to provoke sterility, or in other ways to facilitate their own extinction. Of this form of variation albinism is a good example.

The second kind of variation is less pronounced, is never hereditary, and is amenable to the influence of environment. Hence it is dependent for its existence partly upon intrinsic and partly upon extrinsic causes. This minor order of variation is termed fluctuation or continuous variation. It is this variation which accounts for the whiteness of the Arctic fox. Evidently, therefore, certain wild animals are liable to become affected with whiteness. The one form of whiteness is erratic in its appearance, or, in other words, occurs sporadically, without reason, and animals so affected are prone to transmit the abnormality to their descendants. This is a mutation. The other whiteness comes about partly as the result of an occult factor, termed fluctuation, and partly as the result of an environment calculated to harmonize with this particular form of variation, but is never the result of heredity.

We are so accustomed to regard genetics and evolution in general from the utilitarian point of view as making for the progress of the race, that we ignore and even forget that as "everye white will have its blacke and everye sweete its sowre," so also the very doctrine of the survival of the fit implies that there are also the unfit. It is in this evolutionary scrap-heap that we must make our search for the variations which are diseases. These diseases consist essentially in extremes. For example, a certain brain area is too small or too big, too tardy or too hurried in its development. Either of these extremes is abnormal, sufficiently abnormal, it may be, to constitute disease, and to cause the individual to whom the brain belongs to be

cast on one side as one of the unfit. So after the same fashion with other organs, with individual cells, or with the whole human being. Each division is liable to these variations. Moreover, we have no difficulty in separating from our group of diseases some which are of pronounced degree, spring into being and run their course to all appearances spontaneously, are sporadic, and apt to occur hereditarily. Among these are sporadic cretinism, achondroplasia, idiopathic pernicious anaemia, idiopathic microcephaly, muscular dystrophy, hypertrophic cirrhosis of the liver, osteitis deformans, Friedreich's ataxia. These correspond with the major or discontinuous variations. They are biological mutations rendered pathological by being carried to extremes.

Other disorders show no tendency to heredity, occur partly as the result of some occult influence, and partly as the result of definite causes. These correspond with the fluctuations or minor variations. Among them are endemic cretinism, rickets, atrophic cirrhosis of the liver, chlorosis, and those forms of pernicious anaemia—microcephaly, osteomalacia, and osteitis deformans—which can be traced to the operation of causes. These are in truth of a double origin, for though they originate as variations, their actual appearance is due to the influence of a pernicious environment.

But it is evident that we shall have to enlarge our views of that word "environment." We cannot restrict the word to those circumstances which actually surround the human being, but must also extend it to those things which he takes internally, for it must be obvious that, though not strictly speaking the environment of the whole man, by circulating in his fluids they constitute an environment to his organs and cells. Hence, the poisonous gin which a man swallows at the bar of a low public house is just as truly a part of his environment as are the foul air, the coarse and dirty furniture, and the evil talk of his ragged and grimy associates. So also in respect to endemic cretinism, the environment which starts it into being may be in part some gloomy valley in which such cretins so often live. It may also in part consist of the sediment-laden glacier water which constitutes their daily drink.

We all understand that the normal evolution of a healthy human being is facilitated by a congenial environment. An abundance of good food and of fresh air, comfortable clothes, a temperate climate, cheerful society, good music, paintings, and literature, all tend to soundness of health and to vigour of mind and body. So, also, inadequate food and clothing, over-fatigue, the stale air of unventilated rooms, paucity of sunshine, and poverty, misery, hardship, or any form of mental shock or depression, however produced, all tend to lower the vitality and to facilitate, and in some degree to initiate, disease. The circumstances in the former case act congenially upon normal variations of minor degree to promote evolution. Circumstances in the latter case act congenially upon those variations which are decadent, reversionary, or regressive, tending to throw the man or some part of the man seriously back in the evolutionary scale, causing cells or organs to be at discord with the rest of the body or the man with other men. The one set of circumstances induces biological variations, the other pathological. Under the heading of a pernicious environment, we must include all those substances which taken into the body act inimically upon its constituents, and have, therefore, received the special name of toxins. Though different in kind, these are fundamentally of the same nature in regard to their effects as the circumstances which have just been mentioned. All are indeed toxins, no matter whether they surround the body, are taken internally, are physical or psychical. Failure in business, disappointment in love, conspicuous ingratitude, the depravity of a near relative, the shock of a railway accident, or a serious local injury acts just as truly as a poison upon the body as does scarlet fever, enteric fever, or even alcohol or syphilis. The symptoms produced by an unexpected financial reverse may consist in sleeplessness, loss of appetite, depression of spirits, and a haggard expression of face; and those produced by scarlet fever may consist in fever, loss of appetite, sore throat, and a skin rash, but the differences are differences in detail, and do not affect the main proposition that both are poisonous and capable of acting in conjunction with latent variation to set up a state of intrinsic disease. And this secondary intrinsic disease, say Graves's disease, myxoedema, or rheumatoid arthritis, once established, will continue even if the extrinsic influence be completely withdrawn.

We have now arrived at a point from which we can reconcile our conception of normal evolution with our conception of certain kinds of disease. In both cases we have to do with variations, major or minor. In the one the variations synchronize with circumstances which tend gradually to raise the individual in the scale of creation. In the other the variations are incompatible with normal evolution. They represent biological extremes and are, therefore, discordant. Under ordinary circumstances they remain latent or are suppressed; but if perchance the environment should be of such a nature as to co-operate with or to accentuate them they cease to be latent, but become patent and show themselves in the form of disease.

Pathological variations may be either progressive or regressive. In other words, those variations which ordinarily mark the progress of a thing or of a quality may be exaggerated to such a degree as to cease to be normal, or may even come within the definition of disease. A good example of this kind of variation is the overgrown thyroid of Graves's disease. The other variation is pathological and regressive, because it represents a thing or quality which has so fallen short of its normal standard as to constitute disorder. Thus microcephaly is a regressive variation, seeing that the growth of the brain is arrested long before it has reached a point which is compatible with healthy standards of brain development.

From this it will be gathered that pathological variations are no more than the extreme forms of biological variations. They are pathological not because they are extremes, but because they are discordant. Thus the ears of a lop-eared rabbit are almost certainly the result of a variation of extreme degree, but no one can say they are pathological, for they happen to suit the taste of rabbit fanciers, and though they must be a nuisance to the rabbit, and must interfere with hearing, they tend to prolongation of life and the continuance of the race, and cannot therefore be regarded as morbid or out of place. So, also, when the "caudal appendage" of a dog is, so to say, curtailed as the result of a major variation, as in the bobtailed sheep dog, the result can hardly be termed either a deformity or a disease. And even when the limbs of a dog are shortened by that particular form of variation which we term "achondroplasia," the result is in no sense a distemper. If the dog were a wild dog, it would no doubt have that effect, seeing that it would make it more difficult for the animal to seize its prey, and would render it more liable to be killed by its enemies. But under circumstances now natural to this particular breed of dogs the achondroplasia, so far from unfitting the animal for existence, constitutes a positive advantage, and is a biological asset. The old turnspit dog, the dachshund, the Dandie Dinmont, the Sussex spaniel are all achondroplasic. Though a variation of major degree the achondroplasia is not pathological, seeing that it promotes longevity and tends to the perpetuation of the species. But when a human being is affected with achondroplasia we have to do with a major variation which is pathological, for, other things being equal, the shortness of the limbs, the deformity of the pelvic bones, and the other concomitants of achondroplasia constitute disabilities which both seriously handicap the individual in his progress through life and tend to bring about his racial extinction. Not only are many occupations barred against him because of his incongruous appearance, but he finds it difficult to secure a mate. Moreover, if the achondroplasic chance to be a woman, owing to the deformity of her pelvis she runs peculiar risks at the time of childbirth. Hence for these reasons achondroplasia, which constitutes a normal condition in the dog, is very rightly regarded as a disorder in the man. It harmonizes with the circumstances natural to the dog, and is discordant with the circumstances natural to the man.

Another variation of major degree and progressive in character which is very decidedly pathological is that of the thyroid gland in Graves's disease. In this disorder the excessive growth of the thyroid is so obviously out of keeping with bodily circumstances in general that no one hesitates to call it a disorder. And so also with ill-development or premature degeneration of the thyroid gland, a major regressive variation which gives rise to sporadic cretinism.

These are examples of major variation. An example of minor variation akin to achondroplasia is furnished by rickets. Rickets is due in the first place to some hidden factor. It is this which accounts for the fact that under similar circumstances the disease occurs in some children and not in others. This hidden factor is, of course, the variation or fluctuation. This variation is brought to the surface or fostered by certain circumstances which are favourable to the variation but are adverse to the individual. These circumstances are stale air, thin condensed milk scandalously deficient in fats, and all those other circumstances which we know so well as the causes of rickets.

In some disorders the distinction between major and minor variation is not so marked. This is the case with rheumatoid arthritis. Rheumatoid arthritis or arthritis deformans is a disorder of whose pathology we are at present in complete ignorance and can do no more than conjecture. In the words of Dr. McCrae in the *System of Medicine* of which he is the joint editor,

> There is "no agreement as to what the disease essentially is. To recount the various theories in detail is not necessary. A relationship of rheumatism and gout, an inherited arthritic diathesis, a special kind of degeneration, disturbed nutrition, an inflammatory process, of essential nervous origin, due to injury, reflex irritation, or disease of a supposed joint centre, and some form of infection, have all been suggested at some time or other."

Now let us regard it as a variation and we see how much more precise, how much more just and satisfactory, is our conception of its pathology.

Arthritis deformans is a degeneration of the joints which may be divided into two forms. In the one it arises without ascertainable cause, chiefly in young people, is remarkable for the severity of the damage it inflicts, and for occasionally showing the influence of heredity. As no cause can be found so also is there no remedy, for though it runs a variable course it terminates almost inevitably in the complete ruin of the joint. This form is a mutation.

The other form may or may not arise spontaneously, yet in all cases we can detect the influence of a cryptic element accounting for the way in which, other circumstances being equal, the disease seems capriciously to select some individuals in preference to others. It is a fluctuation, and like all fluctuations, responds to the influence of environment; but the fluctuation being of a decadent nature and having a tendency to thwart or reverse the normal course of evolution this favourable environment is one which is calculated to lower vitality or accelerate old age. Overwork of the joint, anxiety, mental strain, direct damage by dislocation or other injury, the debilitating effect of previous illness, such as influenza, enteric fever, are all favourable to the appearance and continuance of the disease. Probably in most cases the general debility produced by bacterial intoxication constitutes in itself an environment sufficient for the purpose, but in some cases it is possible that a toxin acting locally in concentrated form, as in gonorrhoea or in rheumatic fever, is still more effective. But of all the circumstances favourable to the appearance of rheumatoid arthritis none can be compared with old age.

Though the disease itself is neither an inflammation (arthritis) nor an intoxication it is highly probable that the resisting power of the joints to local invasions is lowered by the morbid process and that they are therefore more liable than are sound joints to become inflamed.

It is the disease *par excellence* for the miracle worker and for the charlatan, for, though induced or encouraged by depressing surroundings, it is capable of being improved or even removed by influences of a contrary nature. The environment of worry or misery, which is in part responsible for the distemper, or the depressing conviction of being a cripple for life, which tends to its continuance, is counteracted by the joyful and confident anticipation of a speedy and permanent cure, such as no one but the religious enthusiast or unprincipled quack is able to infuse into the victim of arthritis deformans. At the same time, it must be understood that this is not written for the sake of upholding such methods. Though it would be idle to deny their efficacy, it is certain that they are neither proper nor expedient. They may answer for the time being, but a more rational and truthful way must be more successful in the end. A doctor cannot impress the imagination of his patients by festooning his rooms with crutches, by unscrupulous promises, or by adopting the blatant methods of the quack; yet, if he once realize the importance of a sanguine outlook and of treatment by suggestion, he can enthuse the patient with his own optimism, and can offer that encouragement which is born of knowledge and experience. These must be far more effective in the long run than any form of exaltation or make-believe, however sensational.

It cannot be pretended that this is an adequate explanation of arthritis deformans, yet it is satisfactory so far as it goes, and may serve as an example of the way in which disease may be approached from its biological aspects. The next step is to inquire into the meaning of variations in general and of pathological variations in particular.

It is of course impossible to furnish such explanation within the limits of this article, but those who wish to inquire further into the nature of variations cannot do better than go to the Mneme theory of Semon.[1] The value of this theory has not yet been fully realized by biologists in this country. Yet German authorities regard it as of momentous and far-reaching significance, and Haeckel has gone so far as to describe it as "the most important advance that evolution has made since Darwin, and the most valuable amplification of his theory of selection."[2] Semon translates the facts of heredity and of variation into terms of memory. As the brain cell is the seat of individual memory, so is the sex cell the seat of racial memory. Racial memory begins with the union of the sex cells. This act by a species of mnemonics furnishes the clue to the next step, just as in brain memory one event by association of ideas recalls another event. Racial memory once set going continues automatically until, on the attainment of middle age, the building of the body is completed. Racial, like ordinary, memory is not infallible. The registration of impressions received in the remote past, when animal evolution was beginning, are very imperfect, so that only the dim outlines of great and widespread changes are repeated. But as the construction of the body approaches completion impressions are reproduced with ever-increasing fidelity. Impressions may be blurred in one case and not in another, and occasionally actual lapses occur, so that important evolutionary events are forgotten. On the other hand, impressions may stand out far too conspicuously, to the derangement of the general effect. It is after this fashion that variations, normal and pathological, arise. An act of racial forgetfulness, if of extreme degree, is a regressive major variation. The memory of a great racial disaster or depression may be so subdued by lapse of time as to remain latent, but the associations furnished by a depressing environment are capable of awakening those long dormant impulses; the memory of the ancient environment is revived by a modern environment of a similar tendency, and the two together give rise to a regressive minor variation.

These meagre outlines of part of a very comprehensive theory may serve to suggest how other kinds of variation may be explained. Perhaps the greatest achievement of the Mneme theory is that, through memory, the theory of evolution is brought into line with the undulatory theories of light, of heat, of electricity, and of other forms of energy.

The nature of the particular variations to which reference has been made can only be understood on inquiry into the principles which underlie growth, development, old age, and the other ingredients mentioned at the beginning as requisite for our biological composition. It is necessary to repeat that this explanation of pathological variations makes no pretence to completeness. All that one can hope to do within the pages of a weekly journal is to indicate, however imperfectly, the beginning of the way in which a host of diseases of unknown pathology may be reconciled with ordinary biological conceptions. Any one who will take the trouble to continue along the same path and will deal after a similar fashion with other diseases of the group will, I am convinced, reap an ample reward, and in the end will possess an understanding of their pathology comparable with that with which we now regard microbial disease. He will find that these disorders which are now among the mysteries of medicine will be no longer mysterious. He will understand the nature of cancer, of pernicious anaemia, of leukaemia, of Graves's disease, as we now understand

that of syphilis, of malaria, and of tuberculosis. Disorders of this sort, like the microbial disorders, will naturally arrange themselves into groups; yet it will be found that all, in the words of Erasmus Darwin, can be brought within the fold of a "theory founded upon Nature, that should bind together the scattered facts of medical knowledge, and convert into one point of view the laws of organic life."[3]

REFERENCES.

[1] *Die Mneme als erhalten des Prinzip im Wechsel des organischen Geschehens.* [2] *Darwin and Modern Science*, p. 142. [3] *Zoonomia, or the Laws of Organic Life*, second edition, 1796, preface, p. 2.

ULCEROUS LESIONS OF THE TONGUE.

BY

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[WITH COLOURED PLATE.]

WHEN every means at our command has been employed there should be no error in the diagnosis of, and consequently no difference of opinion as to the nature of, any ulcer of the tongue. We may, from a clinical standpoint, consider ulcers of the tongue as: (*a*) Evidently simple, (*b*) definitely malignant, (*c*) doubtful; but to delay the justifiable removal of a malignant ulcer or to excise a non-carcinomatous tongue are errors which will eventually carry with them their own condemnation, because they can be obviated if the precepts laid down in the following pages are closely adhered to and if the fallibility of clinical diagnosis is constantly borne in mind.

The "*simple ulcer*," recent in appearance and of obvious causation—for example, a sharp tooth, local trauma, or glossitis—is characterized by absence of neuralgic pain, absence of peripheral induration, and, though tumefaction may not be evident to the naked eye, a certain amount of local oedema is distinctly seen by means of a lens; further, there is an absence (?) of lymphatic enlargement, an absence of foul deposit on the neighbouring teeth, except that which may be accounted for by delay or neglect of cleanliness.

When the exciting causes are removed—projecting stumps or edges of teeth—or in the case of aphthous sores after due attention to gastric conditions, the general health, and salivary lithiasis, the simple ulcer invariably heals in a few days; if not, there is cause for grave suspicion.

Treatment.

1. *Medicinal*, by mouth washes, for gastritis or for infective folliculitis.

2. *Dental*, for removal of any projecting or irregular tooth; "no dentist should take any responsibility in the treatment of any ulcer of the tongue beyond the limited domain of his qualification as a dentist."

3. *Topical*, by chromic acid solution; by caustics (*a*) actual cautery, (*b*) thermo-cautery—Pacquelin, (*c*) electro-cautery, (*d*) chemical caustics; by radium.

There is always a temptation to treat ulcers of the tongue by means of caustics, but this is a dangerous procedure, owing to loss of time and inefficiency, and should rarely be followed. The treatment by the application of caustics, such as silver nitrate, can do no possible good if the lesion is cancer, though in my opinion its application to simple ulcers or other lesions cannot induce carcinoma.

Whatever radiotherapy may do, such application must be topical, like all other thermal and caustic remedies. Some may object to the application of radium to ulcers, lest its effect be no better than a caustic, and valuable time be lost in the course of an undiagnosticated carcinoma; the effect of radium is beneficial in cancer, and while causing healing superficially it likewise penetrates to a considerable depth.

The practitioner in all cases of soreness of the tongue or mouth must not forget that salivary lithiasis or ptyalolithiasis is of more frequent occurrence than is anticipated, or, in other words, that many conditions of the tongue are due to salivary constituents, and not to gastric conditions.

Treatment includes cleansing of teeth, compressed-air jet containing a spray, revolving brush for removal of tartar, facial massage of the salivary glands; drinking of waters; fruit, especially oranges and pineapple.

Tuberculous Ulcer.

The tuberculous ulcer, situated generally on the dorsum or at the tip of the tongue, is readily recognized as a pallid solitary sore, often of considerable depth with sharply cut edges, indolent base usually devoid of induration, and almost invariably associated with pulmonary or laryngeal tuberculosis in young adults. With such associated manifestations the lesion is recognized with no great difficulty, but when the ulcer occurs primarily on the tongue the question is more difficult from the clinical side.

To the naked eye the bottom of the ulcer may appear to remain stationary, except for extension of its satellitic foci, and cause but little if any inconvenience, yet resisting all treatment except caustics, cautery, or curette; curettage is the ideal treatment. Its slow progress is, however, rendered apparent if examination is closely made with the aid of a good lens.

If an ulcer is suspected of being tuberculous the following considerations should be kept in mind as having a definite bearing on the diagnosis, treatment, and prognosis—namely, age and existence of tuberculosis in other parts of the body.

I will refer to the more recent methods which may assist when doubt or aversion to the use of the knife exists.

Tuberculin Tests.—The more recent modifications of the tuberculin test evolved from the original injection method have led to its more extensive employment, and have given to us a fair idea of their respective values. The following are now extensively employed:

1. The ocular instillation test, or Calmette's ophthalmic reaction. A drop of tuberculin (T.O.A.) is instilled into the conjunctival sac. In twelve to twenty-four hours an inflammatory reaction results in tuberculous patients.

2. The skin inunction test, or Moro's percutaneous reaction. Equal parts of tuberculin (T.O.A.) and hydrated lanolin are rubbed into the skin, when a similar reaction to von Pirquet's will result.

3. The cutaneo-inoculation test, or von Pirquet's reaction The skin of the forearm, cleansed and scarified, is inoculated with a drop of tuberculin (T.O.A.). In about twenty-four hours a reaction occurs followed by a characteristic papule or vesicle.

The wider use of these methods during the past few years has impressed me with their clinical limitations. The results fall considerably short of the requirements for an ideal diagnostic method in suspected tuberculosis, though relatively good in confirmation of the clinically tuberculous.

The diagnosis demands the employment of:

1. Tuberculin tests.
2. Scrapings of the ulcer (epithelioid cells and tubercle bacilli).
3. Excision of a piece (epithelioid cells, tubercle bacilli, and giant cells).

Scrapings are unsatisfactory, as by this means oftentimes only the detritus of necrotic cells is obtained; as in the case of the tongue a piece can easily be excised for microscopic examination, this procedure should be adopted.

More than one tongue has been excised with the idea that it was the seat of cancer for want of appreciation by the surgeon of these additional and essential diagnostic methods.

Actinomycosis.

Though this disease is not common in the human subject it should be borne in mind (1) that its most frequent avenue of entrance is the mouth, (2) that the only positive diagnostic evidence is the presence of the actinomyces, (3) that the occurrence of this disease is diagnosed absolutely by its yellow granules visible to the naked eye, greasy to the touch, which, when placed under the microscope, reveal the distinctive characters of the growth.

I have seen these points revealed after the tongue had been removed for a lesion which was not too extensive for the remedial processes of scraping, caustics and iodic treatment. A biopsy for microscopic diagnosis prior to operation would have eliminated such a serious error.

Treatment is by mouth washes, progressive increasing doses of iodides, iodoglidine, etc., and locally by iodex, etc.

In the extensive literature on the antecedents to cancer of the tongue and pre-cancerous states of the tongue we find very little attention has been directed to lingual papillitis, which gives rise to more distressing symptoms than leukoplakia with which it may be associated.

Lingual Papillitis.

Lingual papillitis—a frequent associate of gastric disturbance, and often found in syphilitics—is predominated by a burning pain in the anterior two-thirds of the tongue, increased by any food except the most bland diet. Scarcely can any lesion be detected by the naked eye, but a lens will bring into view a varying number of minute red spots, as though they were the truncated bases of hypertrophied papillae with exposed nerve endings in the minute yet exceedingly painful ulcer. How far this may be an antecedent to either the localized or more rare diffuse variety of "carcinoma linguae" I cannot tell, but occasionally it may be the earliest evidence of commencing carcinoma. The only satisfactory line of treatment to adopt consists in: No alcohol, no condiments, no smoking; bland diet of milk and milk preparations; galvanic cautery directed to the small points (local anaesthesia being employed), which are picked out by means of a lens; application of chromic acid (solution of gr. xx in 1 oz. of water).

Syphilis of the Tongue.

This is probably the most common of all diseases of the tongue, being found as the following ulcerous lesions:

Superficial:
- Primary infective focus or chancre—rare.
- Fissures and ulcers on the dorsum of the tongue—irritable and sensitive to the touch.
- Ulcerous indentations around the edge of the tongue.
- Sessile warty growths—often multiple.
- Patches of faint leukomata.
- Denser patches of leukoplakia.

Deep:
- Indurated masses—gummata—which form in the substance of the tongue, with an upheaval of the surface, and on breaking down leave a crateriform excavation with little or no peripheral induration, but with its deep base covered by a dirty greyish-yellow secretion.

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—Simple ulcers of tongue. Female, aged 59. Wearing dental plate.

Fig. 2.—Tuberculous ulcer of tongue. Male, aged 54.

Fig. 3.—Carcinomatous ulcer of tongue. Male, aged 63. White area indicates absence of linguo-palatal or linguo-dental friction.

Fig. 4.—Symmetrical syphilitic lesions. Yellow spots indicate present ulcerous conditions. White areas indicate healed ulcerous conditions. Male, aged 45.

Fig. 5.—Carcinomatous ulcer of floor of mouth. Male, aged 58. Commencing as a fissure across the fraenum linguae.

Fig. 6.—Carcinomatosis of syphilitic tongue. Male, aged 47. Leukoplakia indicate previous ulcerous states, raised papillary regions existing carcinoma.

A multiplicity of lesions on the tongue, palate, lips, gums, and cheeks, with evidence of syphilis elsewhere—for example, small, hard, multiple posterior cervical glands, with an absence of enlarged submaxillary lymphatic glands, or lymphatic glands which produce a noticeable fullness of the sterno-mastoid muscle—aid in the corroboration of the diagnosis.

Syphilitic ulcers are relatively painless, often symmetrical; the breath has a characteristic (when recognizable) odour distinct from the peculiar fetid smell of cancer. Lastly, protrusion of the tongue is evidence that syphilis very rarely embarrasses its mobility. The real relation of cancer of the tongue to syphilis of the tongue has not been fathomed. Syphilides of the tongue bear no relation in their paucity to cancer of the tongue in the female. The diagnosis of syphilis has now advanced beyond the correct judgement of clinical signs to a scientific and almost incontrovertible certainty by means of (1) detection of the *Spirochaeta pallida*; (2) Wassermann's reaction, which is based upon the theory of complement fixation.

Leukoplakia.

No condition of the tongue to-day occupies a more important position than the white patches—of variable duration, and accompanied by only slight, if any, pain—which, though found not only upon the tongue but also on the cheeks, gums, lips, and palate, are viewed as the too frequent antecedents to "epithelioma linguae." What are these white patches? Some arise after the establishment of the carcinoma, and are evidence of the non-removal of epithelium heaped up owing to the limited movements of the tongue; others are nothing more than the mucous cicatricial coverings which overlie previously existing small ulcers and fissures; these are very liable to fresh crackings and fissurings.

We are told again and again that the history of cancer of the tongue is invariably based upon a life of syphilization and a period of leukoplakia, culminating in the cancerous stage which rapidly runs to death—a painful and distressing death to the patient, associated with much offensiveness to those who minister to his last wants. We are told that some irritation—heaven only knows what may not be included in the category of irritation according to the individual writer—is responsible for cancer.

I fail to see how a leukoplaque of heaped-up layers of epithelium induced by thickening from so-called irritation can be cancerous unless carcinoma is the cause of this proliferation, or unless fresh cracks and fissures allow the ingress of a *contagium vivum*.

In connexion with this question I would lead all cancrologists to ask themselves seriously why a visceral pericardial leukoplaque, commonly known as a milk-spot, is so frequent, whereas we have yet to learn of endothelioma pericardii.

Treatment.

The treatment is shown in the following table:

(*a*) Bland diet.
(*b*) Antisyphilitic régime.
(*c*) Ionization by (i) potassii iodidi gr. x, aq. ad ℥j; (ii) liq. hydrargyri perchlor. on alternate days.
(*d*) Radium.
(*e*) Chromic acid gr. xx, ad aq. ℥j, better employed at intervals, the spots being picked out by the practitioner himself for the following important reasons: (i) The application is more efficiently made; (ii) observation is ensured.
(*f*) Operation. If there be one, two, or even three patches, excision may be urged, as such alone can, with certainty, avert epithelioma from the patch itself.
(*g*) The use of the following paste: Terrae siliceae gr. xxiv, resorcini gr. xlviii, adipis gr. viii.

If the lesion is of simple or syphilitic origin the treatment will correct the trouble, but if the diagnosis is doubtful can any loss of time before making a biopsy be in any degree justifiable?

Carcinoma of the Tongue.

Carcinoma of the tongue vies in frequency with carcinoma of the lower lip. Its occurrence was computed by Butlin as 820 cases per annum in England. The sex-frequency is represented as males 85 per cent., females 15 per cent. The age-incidence as 40+. No satisfactory explanation has as yet been given of this remarkable disparity of occurrence. The scars of syphilis, jagged teeth, smoking, pressure of pipe stem, alcohol, condiments, betel-nut and caustics are among the many accepted factors in the vague category of predisposing causes, but to my mind these one and all produce a condition of epithelium which retards or even prevents the healing of an abrasion, soreness, or ulcer. These factors fail to account for the greater frequency of faucio-glossal, linguo-mandibular and sublingual carcinoma in the male than in the female, whereas carcinoma of the larynx does not evidence such disparity.

The relation of cancer to pre-existing lesions has probably attracted more attention in the case of the tongue than anywhere else, and has led to the common usage of the word "precancerous," a term much to be regretted.

Many conditions regarded clinically as precancerous have been shown microscopically to be definitely cancer. Persons who present long-standing marks of past syphilitic lesions of the tongue—leukoplakia or warty growths—are considered particularly liable to cancer of the tongue. The primary relation to my mind is not a cellular

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FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

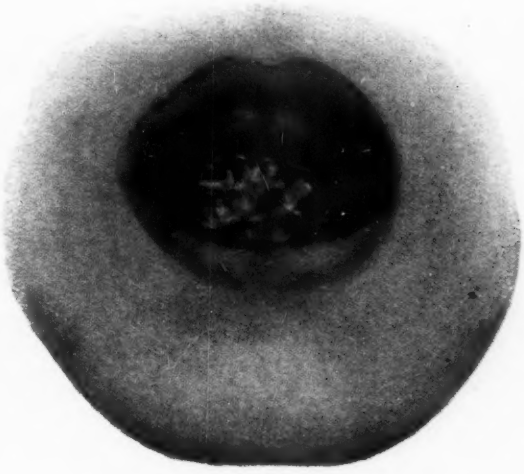

FIG. 5.

FIG. 6.

metamorphosis, but a loss of surface which allows of an ingression. As on the skin so on the tongue, carcinoma may follow upon a simple papilloma or a papillary granuloma (syphilitic); the tendency of such lesions to lead to a breach in the surface is phenomenal. It is noteworthy that the disease frequently commences in a fissure or abrasion with gradual extending infiltration.

We cannot disregard the most workable of all hypotheses in the field of cancrology—namely, "that a living parasite lies undiscovered lurking behind the mysteries of carcinoma"; lesions, sometimes gross, oftentimes imperceptible, permitting of the ingress of this *contagium vivum*. Consequently you cannot neglect the advocacy of early removal of doubtful lesions, because operation prior to extension beyond the local condition is eminently satisfactory.

From a single small initial lesion the course of all the subsequent progressive and agonizing manifestations can be traced. A minute fissure, excoriation, or ulcer remains for a few weeks without healing, meanwhile being rubbed by the irregularity of a projecting tooth or denture, but at the end of this short period occasional burning with progressively distressing pains radiating from the ear are experienced. The little ulcer has extended, and within the brief space of a few weeks evidences the characteristic marginal induration with a limitation in the free movements of the tongue. The lymphatic glands, at first tender, have now become definitely palpable. Profuse and disconcerting salivation with an insufferably fetid breath hail the falling off of the general health and the presentation of one of the most hideous and piteous sights we meet with in our practice.

Conversely it is neither the leukoplaque nor the single typical ulcer with its indurated, cavernous, ragged edge, nor yet several small nodules which eventually coalesce in the formation of an offensive ragged sore covered with a granular surface, but a diffusedly infiltrated tongue with multiple distinct sores which the clinician finds—a rapid lingual carcinomatosis as is sometimes seen in other organs—for example, mamma, stomach, and uterus. Though the early appearance of this affection is a fissure or ulcer, hard to the touch, puckered in appearance, and productive of pain, a carcinomatous ulcer of the tongue may continue for weeks and even months without giving rise to pain or any inconvenience.

The patient too often delays seeking medical advice, whereas owing to the absence of the fourfold classical signs—pain, fixation, offensiveness, and deep ulceration—the practitioner applies a caustic, hoping, despite his constant fear of being in error, that the ulcer will heal.

As members of the medical profession we must constantly bear in mind that "success rests with early and accurate diagnosis"; this all-important question demands the co-operation of the laity with the medical profession. Every patient should be subjected to a thorough examination, due caution being taken neither to overlook any suspicious sign nor to disregard any symptom appreciated by the patient. The surgeon should be cognizant of and employ every assistance which pathology at the present day affords, otherwise he is liable to some cruel surprises when the results of his indifferent clinical acumen are exposed by the microscopist's subsequent revelations—the patient may unfortunately suffer and the blunder may never be published.

Situation.—Though any part of the tongue may be affected, especially when the patient has been the subject of syphilis, the edges exposed to trauma from the teeth are the more usual sites for epithelioma.

There are five particular points at which carcinoma linguae is found (see Diagram 1); three points coincide with the situation of glands:

(*a*) Glands of Weber.
(*b*) Intermediate group of glands (Evans).
(*c*) Glands of Blandin and Nuhn.

The other two points are respectively:

(*d*) Anterior sublingual region—sublingual.
(*e*) Posterior paralingual region—faucio-glossal.

A knowledge of the lymphatic system is important, but we are not, despite the work of Poirier and others, completely equipped in this matter; further, we cannot expect to be certain of the lymphatic glands of the neck until a more accurate knowledge is obtained of the embryonal segmentation in its relation to the ultimate complexity of the floor of the mouth and region of the primitive branchial apparatus. From experience based upon a close study of congenital lesions in the branchial region (Hunterian Lectures, 1907) I am led to consider that the lymphatic glands, which demand attention both clinically and operatively, are all situated above the omo-hyoid muscles.

In cancer of the tongue the "lymphatic gland infection-path" leads sooner or later, directly or indirectly, into the deep cervical glands; but be it closely noted that enlargement of lymphatic glands is preceded by (1) an insidious cancer cell growth; (2) a tenderness without distinctly palpable lymphatic glands.

It is even possible that the patient may seek advice for a persistent tenderness in the neck and enlarged lymphatic glands before any attention has been paid to the primary lingual focus.

Cancer of the tongue owes its rapid extension beyond the domains of surgery to the fact that there is almost a complete absence of fibrous tissue in the tongue; accordingly there springs up no barrier to oppose the rapid extension, and the diagnostic hard edge of a carcinomatous ulcer of the tongue is frequently absent, whereas a chronic septic condition may rapidly diffuse and a syphilitic lesion fail to present its typical appearance. Far be it from me, therefore, to criticize severely or adversely those authorities who state that removal of lymphatic glands scarcely

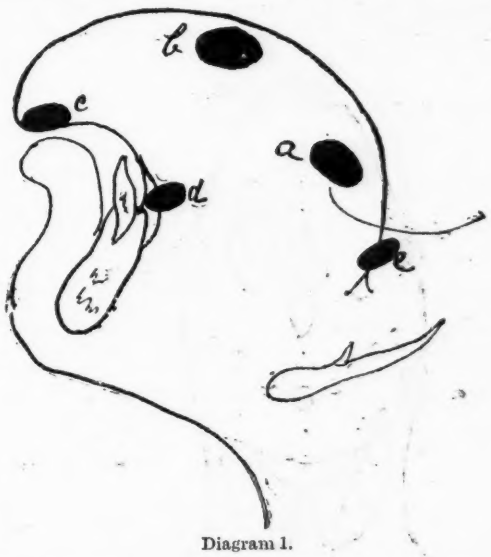

Diagram 1.

affects the final results. If the palpability of a lymphatic gland is the only criterion for its removal, we have not grasped the "invasion paths of cancer" and are negligent of the myriads of "implanted cells" which lie not only between the focus and the lymphatic glands but even beyond the glands themselves, as hereby the operator only removes a centre and disregards the lines of communication and channels of dissemination.

I will not trouble you with statistics of great authorities, past and present—mere records of their work. Experience, which cannot be dispensed, each man has to gain for himself. Nor will I now treat of the details employed in the varying operative procedures which may be adopted in accordance with the demands of each particular case.

Patience, ingenuity, and constant attention are necessary in incradicable cases, because neither in agonizing distress to the patient nor in offensiveness to the attendant—during the later stages of his affliction—is cancer of the tongue exceeded, except possibly by recto-anal cancer.

Cancer of the Floor of the Mouth.

Any ulcer or lump under the tongue demands that the clinician shall not forget consideration of the glands of Blandin and Nuhn, the possibility of calculi in the salivary ducts, and the organization of thrombosed veins, extravascular or intracystic haematomata.

No suspicious focus in the floor of the month should escape skiagraphy.

Salivary calculus often presents the following associated

conditions: (*a*) Ulceration of the floor of the mouth; (*b*) enlargement of the cervical lymphatic glands; (*c*) abscess of cervical lymphatic glands.

When incision into an enlarged cervical lymphatic gland consequent upon an ulcer of the floor of the mouth leads to the escape of pus cancer is not necessarily put out of court. It may not be entirely irrelevant to mention here that the commonest causative associate of pyometra is cancer of the uterus, and that, despite the combative effects of the micro-organisms of suppuration as urged by some vaccine-therapists, I can hardly conceive of any gynaecologist urging pyometrosis as a curative treatment for carcinoma uteri.

Diagnosis.

The following are practical points in the examination of the tongue and floor of the mouth which demand careful consideration as aids to early diagnosis. The age of the patient is one of the foremost clinical guides to the diagnostician, because the older the patient the greater the probability of cancer. In a patient over the age of 40 any ulcer of the tongue which does not respond immediately to the simplest treatment should be suspected, an investigatory partial excision undertaken, and the further treatment carried out according to the microscopical findings.

The character of the speech and salivation, both of which are dependent upon the degree of mobility of the tongue, should be carefully observed.

The history of any ulcer demands that an attentive ear shall be given to the patient's tale. Every ulcer should be

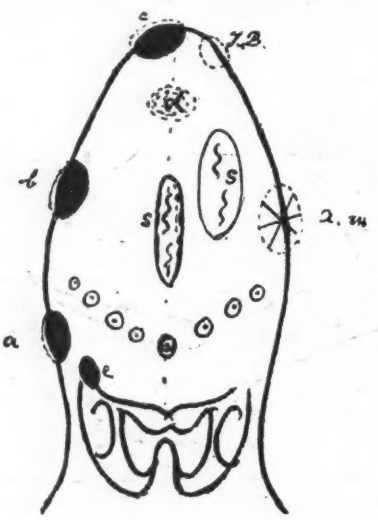

Diagram 2.—Comparing the situations where various distinctive ulcerous lesions are generally found. A, B, C, D, E, Cancer; T.B, tuberculous: A.M, actinomycosis; S, syphilitic.

closely scrutinized, its situation studied, and a careful inspection made of teeth, gums, lips, cheek, palate, and tonsil in a good light. It is advisable that these investigations should be carried out with an illuminated spatula and depressor, aided by a strong lens, while traction is being exercised upon the tongue. (Caspar's lamp and Wolff's apparatus are very convenient for the purpose.)

The lesions mistakable for cancer we have considered; the liability of old syphilitic lesions to become the seat of carcinoma—possibly due to their frequency—increases the difficulty of early recognition, and accounts for frequent delay by the trying of antisyphilitic remedies without having made an absolute diagnosis by the methods advocated in this paper.

Pain in lingual carcinoma is of greater diagnostic value than in carcinoma in any other part of the body. "No matter how malignant may be the aspect of any large or deep ulcer, if free from pain the ulcer is probably not cancerous." Nevertheless, beware of a pitfall. To emphasize these matters, I would add that "the cases of advanced cancer of the tongue or floor of the mouth in which I have met with the greatest success in treatment are those cases of cancer which were not cancer." By this I refer to advanced cases of actinomycosis, syphilomata, chronic septic conditions associated with carious teeth, osteomyelitis of the mandible, impacted salivary calculi or foreign bodies implanted into the substance of the tongue.

Digital palpation of the whole organ, especially at the back, and examination of the structures forming the floor of the mouth by one finger inside the mouth and another in the submaxillary or submental regions must not be neglected. Occasionally the thickness of these structures does not allow of a satisfactory digital palpation; this procedure, therefore, should be carried out at the time of operation by inserting the finger through a preliminary incision in the neck.

Lastly, never fail to remove a piece of the ulcer and secure the report of a competent and reliable microscopist.

Many of the points I have discussed here are familiar to every member of our profession; nevertheless, it is a duty to emphasize them by frequent repetition, so that medical men may adequately inform the public on the question of cancer, because the greater percentage of cancer lesions are hopelessly advanced before they come under medical observation.

Many cases of cancer are cured by extensive radical surgical treatment, though a certain percentage directly or indirectly succumb to operation. A very large number of patients operated upon for a suspicious lesion, which is subsequently proved by careful microscopical examination to be malignant, are found to live for ten, twenty, or even thirty years free from any further evidence of the terrible disease.

A matter of concern is the "reticence of patients" to consult a medical man early. This neglect is due to: (1) The widely promulgated belief that cancer is essentially and even primarily associated with severe pain; (2) the fear lest a lesion may be pronounced cancer; (3) the fact that the symptoms of cancer which are appreciated by or known to the public are pain, offensiveness, and wasting. These are evidences of an advance of the disease to that extent when relief by operation is at least uncertain.

Though the actual cause of cancer is as yet unknown, all scientific surgeons agree that primarily cancer is a local disease, but that we are without any method of recognizing when a cancer is passing beyond the local condition.

In my own personal experience the end results give satisfaction when radical surgical procedures have been applied early; there can be no doubt that the best results are obtained when:

1. The patient seeks treatment early.
2. All suspicious growths are removed.

It would be well for, and induce to early treatment, all affected by carcinoma linguae if information of the following character were known to the public.

SUMMARY.

Cancer.

(*a*) Cancer is very prevalent, and is stated by some authorities to be on the increase in the British Isles.

(*b*) Cancer rarely occurs before the age of 30, but is more and more frequent with advancing years.

(*c*) Cancer is very insidious in its onset; it may present neither swelling, pain, nor discharge, and be far advanced before causing much discomfort.

(*d*) If you have any disconcerting symptom, seek immediate medical advice, as the early treatment of cancerous affections, in spite of their serious nature, is followed by successful results.

Cancer of the Tongue.

Cancer of the tongue is of frequent occurrence in males over the age of 40 who may be addicted to alcohol or tobacco, who frequently partake of irritating condiments, or who practise any of the different habits of chewing.

Any long-continued wart, hard lump, or unhealed ulcer on the tongue or gums is liable to become the seat of cancer.

Close attention to the cleanliness of the mouth and the brushing of the teeth is advisable.

There is no more frequent precursor or accompaniment of cancer of the tongue than syphilis.

Any decayed tooth, any roughness of the teeth or of a denture demands a visit to the dentist, whereas for any soreness early medical advice should be sought, as such alone leads to the early recognition of cancer, and is the keynote to success.

THE ACTION OF SALVARSAN AND NEO-SALVARSAN ON THE WASSERMANN REACTION.

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FROM the beginning of the salvarsan epoch the reports concerning the drug's action on the Wassermann reaction have been very conflicting. This is not surprising, as one had no knowledge as to the time that should elapse between stopping treatment and carrying out the test.

The current opinion for some time was to allow two months to pass from the last day of treatment, and as the majority of cases tested at this period gave a negative reaction, it was considered tentatively that one injection of "606" was sufficient.

Then the observation was made that some cases in the primary stage, giving a negative Wassermann's reaction before treatment, gave a position within a week after an injection, to become negative again two months later.

It was only when so many of these cases developed recurrences, with a reappearance of a positive reaction, that it was recognized that a negative reaction under such circumstances could only signify that the patient was in the latent stage.

Then Gennerich and Milian advised that the blood should be tested at frequent early intervals after each injection, and that so many injections should be given until the reaction was negative on each occasion. Having made some few hundreds of tests with blood withdrawn at frequent intervals after both salvarsan and neo-salvarsan, a brief survey of my results may be of interest.

Primary Stage.

In the primary stage, when the reaction is negative before treatment is commenced, most cases give a positive reaction after; which is most marked about the forty-eighth hour, but commences to show itself about the seventeenth hour. In some cases, on the other hand, the reaction does not become positive until the fifth day. Although it may remain positive for several days, the degree diminishes generally about the third week, till it becomes negative before the eighth. If the reaction is only slightly positive after the injection, it becomes negative much earlier. If the serum is tested in diminishing strengths, to estimate its reagin content, one can estimate how close to the secondary stage the patient is, and roughly how many subsequent injections will be necessary to produce a cure.

If the first injection gives rise to only a weak reaction, then three or four more will undoubtedly suffice to make the reaction permanently negative; if, however, the reaction is strong, then the patient is in the secondary stage, and will require at least 3 grams of salvarsan or neo-salvarsan before the desired effect is obtained.

CASE I.

Intra-urethral chancre, fourteen days' duration, six weeks after intercourse; slight inguinal adenitis; spirochaetes found.

No. of Injection and Result.		24 Hours After.	48 Hours After.	Fifth Day.	Tenth Day.	Fourteenth Day.
First injection ...	−	++	+++	+++		
Second injection (8th day after first)	+++	+	++			+++
Third injection (21st day after second)	+++	−	+++	+++		
Fourth injection (8th day after third)	+++	−	−	−	+	
Fifth injection (14th day after fourth)	−	−	−	+		
Sixth injection (8th day after fifth)	+	−	−	−		

The reaction was tested on the 7th, 14th, 21st, and 28th days after the last injection, and was negative on each occasion.

CASE II.

Two chancres on penis, two on scrotum; no adenitis; date of infection not clear; spirochaetes found.

No. of Injection and Result.		24 Hours After.	48 Hours After.	Fifth Day.
First injection	−	−	+	++
Second injection (8th day after first)	++	−	+	++
Third injection (8th day after second)	++	−	−	−
Fourth injection (8th day after third)	−	−	−	−

The reaction was tested on the 7th, 14th, 21st, and 28th days after the last injection, and was negative on each occasion.

CASE III.

Chancre, internal canthus of eye; adenitis, preauricular and cervical; date of infection uncertain; spirochaetes found.

No. of Injection and Result.		24 Hours After.	48 Hours After.	Fifth Day.	Tenth Day.	Seventeenth Day.
First injection ...	−	−	+	++		
Second injection (8th day after first)	+++	++	+++	++	+	
Third injection (17th day after second)	++	++	++	++		
Fourth injection (8th day after third)	+	−	−	−	−	++
Fifth injection (21st day after fourth)	−	−	−			

On testing the reaction on the 7th, 14th, 21st, and 28th days after the last injection, it was found to be negative on each occasion.

In the primary stage it is necessary to test the blood forty-eight hours and the fifth day after the first injection, and if positive on either occasion to repeat the injection on the eighth day. Then it is necessary to test the blood weekly and repeat the injections until the Wassermann's reaction is negative on the seventh day after the last injection. When this is the case the patient should only be passed when the blood remains negative, tested weekly, for another month.

Unfortunately, it is rare to get a case so early that the reaction does not become positive as the result of an injection. I have seen such, but think it wiser to give a second injection for safety, and a provocative injection six months or a year later.

Secondary Stage.

When the reaction becomes strongly positive after an injection, and in cases in which it is markedly positive before treatment is commenced, no blood tests need be made until before and after the fourth injection, as in my experience four injections are the minimum likely to be required to produce a permanent negative result.

CASE IV.

Chancre on penis, general adenitis, and headaches at night time.

No. of Injection and Result.		24 Hours After.	48 Hours After.	Fifth Day.
First injection	+++	+++	+++	+++
Second injection (8th day after first)	+++	+	+	++
Third injection (8th day after second)	+	−	+	−+
Fourth injection (8th day after third)	−	−	−	−

The reaction was also found to be negative on the 7th, 14th, 21st, and 28th days after the last injection.

CASE V.

A typical case of early generalized syphilis, rash, sore throat, etc.

No. of Injection and Result.		24 Hours After.	48 Hours After.	Fifth Day.
First injection	+++	+++	+++	+++
Second injection (8th day after first)	+++	+++	+++	+++
Third injection (8th day after second)	++	+++	+++	+++
Fourth injection (8th day after third)	+++	+++	+++	+
Fifth injection (8th day after fourth)	−	+	++	−
Sixth injection (8th day after fifth)	−	−	−	−
Seventh injection (8th day after sixth)	−	−	−	−

The reaction was also found to be negative on the 10th, 14th, and 28th days after the last injection.

Tertiary Stage.

In the tertiary stage the Wassermann reaction behaves much in the same way as it does in the primary and secondary, except for one peculiar phenomenon which is occasionally to be noted—that is, that a case with a strong positive reaction before treatment may become negative immediately after an injection and remain so from twenty-four to seventy-two hours, and then becomes quite positive again. On repeating the injection the same may happen, but more often it is quite the reverse—namely, that the reaction becomes more positive, an occurrence which is seen in the primary, secondary and latent stages.

CASE VI.

The patient contracted syphilis twenty-five years ago, for which he took mercury off and on for four years. For the past five years he had been troubled with cutaneous gummata, which disappeared under mercury and iodides, to quickly reappear after treatment was discontinued. In 1911 the patient had three intramuscular injections of salvarsan, and he came to me for a Wassermann test just after Christmas. There were no symptoms at the time.

No. of Injection and Result.		24 Hours After.	48 Hours After.	Fifth Day.
First injection	+++	+++	+++	+++
Second injection (8th day after first)	+++	+++	+++	+++
Third injection (8th day after second)	+++	++	+++	+++
Fourth injection (8th day after third)	++	+	+	+
Fifth injection (8th day after fourth)	−	−	−	−
Sixth injection (8th day after fifth)	−	−	−	−

CASE VII.

A man, aged 42, contracted syphilis eighteen years ago, for which he was treated with mercury (pills) internally for three years. A few years later he was much troubled with headaches, which were only relieved by mercury and iodides, and the moment treatment was stopped the headaches commenced again. From time to time the patient had cutaneous gummata and some soft nodes (gummatous pericranitis) on his skull. When he came to me he had a gumma over his frontal bone which had eroded a portion of the external table; headaches were bad, and the patient complained bitterly of losing his memory.

No. of Injection and Result.		24 Hours After.	48 Hours After.	Fifth Day.
First injection	+++	−	−	+++
Second injection (8th day after first)	+++	−		
Third injection (28th day after second)	+++	++	+++	+++
Fourth injection (8th day after third)	+++	++	+++	+++
Fifth injection (8th day after fourth)	+++	+	++	+++
Sixth injection (8th day after fifth)	++	−	+	−
Seventh injection (8th day after sixth)	+++	−	++	+
Eighth injection (8th day after seventh)	++	−	+	−
Ninth injection (8th day after eighth)	+	−	−	

On testing the reaction on the 7th, 14th, 21st, and 28th days after the last injection, it was found to be negative on each occasion.

When arriving towards the end of treatment, and when all the reactions are negative, and in cases in which the amount of reagin is normally small—namely, cases of arterio-sclerosis, cerebro-spinal syphilis, syphilitic epilepsy, and hemiplegia—each serum should be tested in gradient increasing strengths.

When a serum is used stronger than normal, controls should never be omitted, showing that it has no haemolytic power on the sheep's blood corpuscles, an occurrence which is not at all uncommon, especially when the serum has been allowed to remain with its corpuscles for a few days. Therefore pipetting off the serum as soon as possible after the blood has been withdrawn is desirable.

It sometimes happens that cases nearing the end of treatment, for instance, after the fourth or fifth injection, give a weak positive reaction only between the third and fourth week, which becomes immediately negative within a few hours of repeating the injection. Therefore, before a patient is finally discharged, a test should be carried out between the twenty-first and twenty-eighth day after the last injection. Such cases usually only require one more injection before the treatment is complete.

Patients who have had syphilis and give a negative Wassermann's reaction are either cured or in the latent stage, which of the two can only be ascertained by giving a provocative injection of salvarsan and then testing the blood.

CASE VIII.

A man aged 29 contracted syphilis five years ago. The attack was very mild, but nevertheless the patient continued his mercury treatment (pills and injections) for four years. A recurrence never appeared. On three different occasions the blood had given a negative Wassermann's reaction, but the patient, being anxious to marry, was desirous of an injection of "606" to make things sure.

No. of Injection and Result.		24 Hours After.	48 Hours After.	Fifth Day.	Fourteenth Day.
First injection	−	+	+++	−	
Second injection (8th day after first)	−	+	+++	++	
Third injection (8th day after second)	−	+	+	++	
Fourth injection (8th day after third)	+	+	+	+	+
Fifth injection (21st day after fourth)	+	−	−	−	
Sixth injection (8th day after fifth)	+−	−	−	−	
Seventh injection (8th day after sixth)	−	−	−		

The reaction was also negative on the 7th, 14th, 21st, and 28th days after the last injection.

If the previous treatment has been recent—that is, only a few months back—the appearance of a positive reaction may be delayed, or, as happened in several of my cases, was positive in the forty-eight hours blood, and negative again on the fifth or even third day, to become only definitely positive on each occasion after the second injection. I have had two cases in which the reaction was not positive at all until after the second injection—cases of arterial syphilis.

Not only is the reaction determined by the time of the previous treatment, but also largely by the quality of that treatment. If the treatment has been good, then the occurrence of a positive reaction may also be delayed, and only a few injections are required to produce a permanent negative reaction.

I have seen several patients who had been treated with mercury for three to four years, and who had given a negative Wassermann's reaction on several occasions, give a positive after a provocative injection of salvarsan, and require four to six injections before a permanent negative reaction was obtained. I doubt whether prolonged administration of mercury often cured a case of syphilis. It merely abolished symptoms, drove the patient into the latent stage, from which he might on any future occasion return to the active; or what still more often happened, insidious changes took place in his vessels, which could not be detected clinically until the arterio-sclerosis was

well advanced, or serologically because the amount of reagin circulating in the blood was too small to estimate.

An important group of cases belonging to this latent stage are women who have no symptoms, in whom the Wassermann's reaction is negative, but who, in spite of all, beget syphilitic children, and *ipso facto*, are themselves syphilitic. Such cases will, in my experience, give a positive Wassermann's reaction after a provocative injection of salvarsan, thereby indicating how necessary treatment is.

In cases of cerebro-spinal meningitis, in which the cerebro-spinal fluid gives a positive Wassermann's reaction, repeated injections of salvarsan will convert the positive into a negative reaction and at the same time cause the lymphocytosis to disappear. As the cerebro-spinal fluid is both weak in its reagin content and complement-fixing capacity, it should invariably be tested in increasing strengths.

I have recently had two interesting cases in which before treatment the Wassermann's reaction was negative in the blood and positive in the cerebro-spinal fluid, becoming positive in the former only after treatment.

From the foregoing it can be seen that there is a fallacy in the fourteen-day limit which is advocated now. Cases of latent syphilis, especially after the first injection, may give a negative reaction then and not appear positive on the fourteenth day until after the second injection. Further, cases of primary syphilis and cases nearing their end of treatment not infrequently give a negative reaction on the fourteenth day, but a positive between the seventeenth hour and fifth day, and, in my opinion, so long as an injection has the power of producing a positive reaction, whenever that may be, the disease is not eradicated—not until the reaction is negative on every occasion tested.

As an injection of salvarsan will not give rise to a positive reaction in a non-syphilitic, one must regard the occurrence of such as indicative of the presence of disease, and efforts should be made to bring about a cure.

In the primary and secondary stages of syphilis this is possible, but in a large number of tertiary cases it is not, even nine injections being insufficient to change a positive into a negative reaction. Therefore, in the early stages of syphilis salvarsan should be used with the idea of curing the disease, and in some of the late stages of abolishing the symptoms only. This alone will show how imperative it is to diagnose and treat a case of syphilis as early as possible.

One most important point I have noticed in making these various tests—that is, that two individuals in exactly the same stage, with the same lesions, in the one a permanent negative reaction may be obtained after four injections, while in the other six or more may be required.

Another point: A permanent negative reaction is most easily obtained when the treatment is continuous, that is, when the injections of salvarsan follow closely upon one another and when mercury is given simultaneously. For instance, early cases of syphilis which were given one or two injections of salvarsan several months back, have required nearly the number given continuously as presumably would have been required had those previous injections not been given. Therefore, it is of the greatest importance, if a course is going to be started, that it should be persevered with until the desired effect is obtained.

Neo-Salvarsan.

As to neo-salvarsan, the most important point to estimate is whether it is more, or less, powerful than salvarsan. The ease with which it dissolves and the little disturbance following its employment would not alone warrant its use in preference to salvarsan; it must be proved to be more potent in its action.

If films from a primary sore are made at frequent intervals after an injection, and in one case the spirochaetes are found to be absent after seventeen hours, and in another after twenty-four hours, no conclusions can be drawn if the former is found to be the case after neo-salvarsan and the latter after salvarsan, since the time required to kill the spirochaetes varies enormously, and the variation is no doubt caused by the fibrous tissue in the induration preventing a thorough permeation with the drug.

The only means by which one can compare neo-salvarsan with salvarsan is through the medium of the Wassermann's reaction.

I first of all employed weekly injections of neo-salvarsan and tested the blood twenty-four hours, forty-eight hours, and the seventh day after last injection, and found that a negative reaction was obtained after fewer injections, and that some of my tertiary cases which failed to give a negative Wassermann's reaction after seven injections of salvarsan, quickly became negative on using neo-salvarsan.

As my observations of the influence of treatment on Wassermann's reaction have shown me how necessary it is to give the injections following upon one another as soon as possible, much better results are likely to follow neo-salvarsan than salvarsan, because two maximum doses of the former can be given weekly without any ill effect, or three smaller doses. I have used neo-salvarsan—1 gram of which corresponds to 0.6 gram salvarsan—twice weekly, employing doses from 0.9 gram to 1.5 gram, and three times weekly with smaller doses, in all over 200 injections.

When two injections weekly are given the Wassermann's reaction should be tested in the blood withdrawn on the day of injection, and so many injections given till the last blood test is negative. Then the blood should be tested seven, fourteen, twenty-one, and twenty-eight days later. This should also be done when three injections weekly are given.

CONCLUSIONS.

Taking all stages of syphilis, I have found that three to seven injections are necessary to cure most cases of syphilis.

There is no doubt that many cases in the tertiary stage can be cured with neo-salvarsan which failed to be cured with salvarsan.

Liable to change as these conclusions may be, I cannot but admit that the alterations in the Wassermann's reaction as the result of treatment are most constant, and that when tested at short intervals give a much safer guide to regulate treatment than by saying that just so many injections will be required, or, as the old syphilologists used to teach, that a three years' pill treatment was sufficient for all cases alike.

As there is a possibility of fallacy, I advise my patients to have a provocative injection of neo-salvarsan six months or a year after they have been discharged, and the blood tested forty-eight hours, the seventh, fourteenth, twenty-first and twenty-eighth day after that injection. I might finally add that all my cases for some months past have had three to nine injections of salvarsan, given at seven to fourteen days' interval, or three to seven injections of neo-salvarsan, given at not more than seven days' interval, with not a single bad manifestation or a recurrence of symptoms.

THE X-RAY TREATMENT OF GRAVES'S DISEASE.

BY WILLIAM H. HOOTON, M.R.C.S., L.R.C.P.,
LEEDS.

THE numerous remedies, ranging from fresh air and forced feeding to a severe surgical operation or the quasi-specific treatment by serum or milk of thyroidectomized animals, indicate by their very multitude the generally unsatisfactory nature of the treatment of exophthalmic goitre. But it is beginning to be seen that we have in the *x* rays, properly applied, a therapeutic agent of efficacy in the relief of this disease. The Roentgen rays affect the tissues as follows: After a dose has been administered there is a latent period of several days during which no change can be made out; then, if the dose has been a small one, there is increased secretion from glands and increased activity in other structures—for example, the amount of sweat increases and hair grows more rapidly for a time. A full dose, on the other hand, paralyses cell activity, the hair falls, and glandular secretions are diminished. A still larger dose causes inflammation of the superficial structures, which may go on to necrosis, leaving an ulcer often very slow to heal. It is obvious, therefore, that the quantity of rays given must be accurately measured.

It is generally agreed that the symptoms of Graves's disease are due, at least in the first instance, to an unduly great outpouring of the result of thyroid activity into the blood stream. If, then, by administering suitable doses of

x rays, we are able to depress and diminish to within normal limits the secreting power of the thyroid gland, we should expect to be able to relieve the patient's symptoms, so soon, at any rate, as the rate of elimination of thyroid product rose above the rate of its absorption.

Experience shows that this is what occurs, and, moreover, after a sufficient number of applications the effect becomes permanent, and some histological change, probably a fibrosis, takes place in the gland.

The treatment is applied as follows: The patient reclines on a couch, a cushion being placed behind the neck to render it more prominent; collars and neckbands are removed. A focus tube of medium resistance (that is, one having an alternative spark-gap of about 4 in.) is placed so that the distance from the anticathode to the skin is 16 cm. A current of half a milliampère is passed through the tube, which is arranged so as to allow the rays to pass in an antero-lateral direction on each side of the gland in turn. A cylinder of stout lead cuts off all rays other than those passing to the thyroid region, the skin over which is protected from the softer rays (which are liable to cause dermatitis) by a disc of "sole" leather about 6 mm. thick. At first a twenty minutes' irradiation on each side of the gland may be given once weekly, a careful watch being kept for signs of dermatitis. Then, provided the patient is making satisfactory progress (as shown by fall of pulse-rate, lessening tremor and palpitation, etc.), the interval between the applications is gradually lengthened to two, three, four weeks; the duration of the application being cut down to fifteen or ten minutes on each side of the neck. Any sign of erythema would indicate cessation of treatment for a few weeks; and thenceforward smaller doses would be indicated.

The total number of these patients who have come under our treatment and observation is 31—all females except one. Of the whole number, 14 were treated privately, and 17 came under the Light Department of the Leeds General Infirmary. I must discuss the two classes separately, because those patients treated in the hospital do not, on the whole, get on so well as the private cases, and this for various reasons: (1) They cannot, in many cases, secure the requisite rest and abundant food enjoined upon those in more favoured circumstances; (2) they do not attend so regularly; (3) the soreness of the neck induced by the treatment assumes an importance to the untutored mind quite sufficient to act as an excuse for ceasing to attend; (4) cases are probably more developed when first seen.

Of the 14 private cases 10 are apparently cured, 9 of them having been quite well for over a year, the other for some six months; two members of this group have had quite recently a normal pregnancy and given birth, after many years of previously childless married life, to a healthy full-time child. The remaining 4, not classified as "cured," show very marked relief of symptoms and have been enabled to return to practically all the activities of normal life, except, of course, vigorous games, running upstairs, and the like.

Of the 17 hospital cases 7 may be classified as cured, 4 are markedly relieved, 4 show very little improvement, 1 was operated on with a fatal result after only five doses of the rays, and 1 has only just come under treatment. So that of these 17 the result in 11 is satisfactory, and of the 4 who have made but little progress, 1 has phthisis, 1 attends very seldom, and 1 has left the district.

Altogether, therefore, the "cured" and "greatly relieved" number over 80 per cent.

The general progress of the cases while under treatment does not show sufficient variety to justify giving a lengthy series in detail, I will therefore mention two typical instances:

CASE I.

Miss D., aged 35. When treatment was commenced there was extreme nervousness and tremor; marked protrusion of the eyeballs; a moderate goître, the neck measuring 14½ in.; great weakness, dyspnoea, a pulse-rate of 160; much palpitation.

These conditions gradually diminished, and at present she is free from nervousness and tremor; the exophthalmos is materially lessened; the neck only measures 12¾ in.; she can do an ordinary day's housework and can walk three or four miles; is not now troubled with "heart attacks," nor was she distressed in any way by the heat of last summer; pulse-rate now 84.

The thyroid is still easily palpable and feels like a hard fibrous mass; it does not pulsate. Her own doctor says, "Practically all her Graves's symptoms have disappeared and I consider her cured."

CASE II.

Miss F., aged 19. When first seen, about eighteen months ago, there were marked nervousness, shortness of breath, and tremor; the eyes were very prominent and the thyroid much enlarged. Palpitation and amenorrhoea for the previous twelve months. Unable to walk far or to pursue her work as a pupil teacher. Pulse-rate 128. Very anaemic.

After ten irradiations, covering a period of some three months, one noticed a marked improvement. The tremor and palpitation had disappeared; she could walk without distress on the level; the neck was smaller, and the pulse-rate was 88. She has had since then occasional doses of the rays, and when I saw her a few weeks ago she was able to dance and cycle; there is, however, some shortness of breath on climbing hills, and the exophthalmos and goître are still marked. She is continuing treatment, having a dose once in six weeks or so.

Summing the whole matter up one may say that the noteworthy features are the lessening, often rapid, of the nervousness, the dyspnoea, the tachycardia, and the tremor; the patient's weight increases, and there is a return, in a greater or less degree, to a normal enjoyment of life.

One defect undoubtedly did, and to a smaller extent still does, exist—namely, the soreness of the skin of the neck, a true radio-dermatitis, present as a rule only for a few weeks during the earlier part of the treatment, but unfortunately giving place to a permanent brown stain and patches of dilated capillaries, which to those who wish to wear low-necked dresses is necessarily a great disadvantage. These difficulties, however, are being overcome by filtering out the softer rays which are responsible for the mischief to the skin; and after all, I do not think it is a great price to pay for relief from a distressing disorder.

In conclusion, I should like to express my thanks to Dr. Rowden, honorary director of the electro-therapeutic department of the Leeds General Infirmary, for his kindness in allowing me to make use of his notes in many of the cases.

ON DERMOIDS OF THE TONGUE.

WITH A REPORT OF A LARGE SUBLINGUAL DERMOID CYST.

BY ROBERT OLLERENSHAW, CH.B., F.R.C.S.ENG.,

HONORARY SURGEON TO SALFORD ROYAL HOSPITAL AND TO CHILDREN'S DEPARTMENT, MANCHESTER NORTHERN HOSPITAL.

ALTHOUGH congenital in origin, sublingual dermoids frequently do not attain sufficient size to attract even the patient's attention until many years have elapsed. Surgical interference, however, is usually sought long before the cyst attains a size at all approaching that of the one here recorded.

A few large sublingual cysts have been reported, one of the most interesting amongst them being a case noted by Flinn. In this patient a small rounded swelling, the size of a pea, was noticed lying below the tongue on the second day after birth, and it slowly enlarged to the size of a hazel-nut. It then remained quiescent until the patient had reached the age of 23 years, when it began quickly to enlarge until it filled the mouth and projected in the submaxillary region, its diameter being 5 or 6 inches; it produced rather severe dyspnoea.

In another case the cyst at 10 years of age was the size of a hazel-nut; at the age of 29 the man could not close his lips, and there was huskiness and dyspnoea.

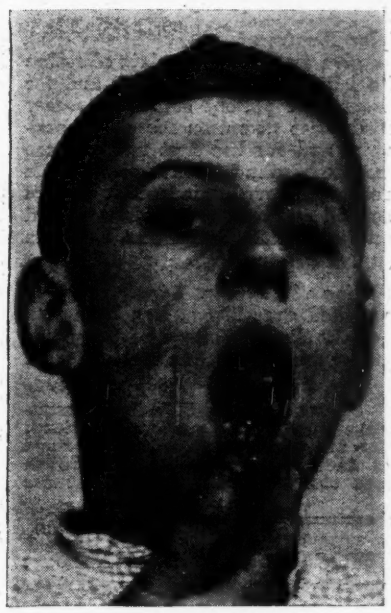
These cysts have their origin in groups of epithelial cells which remain enclosed in the mesoblastic connective tissue; they are of the type called by Bland-Sutton "sequestration dermoids." They are found to originate precisely in the middle line, lying in the septum of the tongue at any point between the mandibular symphysis and the hyoid bone, to one of which bony points there usually runs a firm fibrous band of attachment.

Sublingual dermoids have to be distinguished in diagnosis chiefly from ranulae, which have a bluish, translucent appearance in contradistinction to the whitish-yellow colour of the dermoid; ranulae, again, are much softer, and present easy fluctuation as compared with the putty-like consistency of dermoids, which pit on pressure. As the cyst enlarges the first noticeable change is in the speech, which becomes gradually less clear, the "s" sounds being first affected; swallowing is next interfered with, saliva dribbles from the mouth, and if treatment

is still further delayed the patient may actually begin to starve from lack of food, and backward pressure may produce dyspnoea.

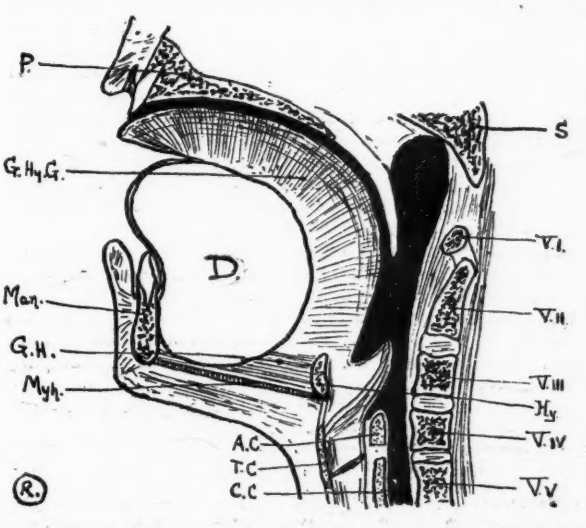
The present case is that of a boy of 13 years, who came under my care at Salford Royal Hospital in January last.

His history was as follows: When 14 days old he was taken to a doctor because of difficulty in sucking; after examining the mouth and tongue and dividing the fraenum, the doctor noticed, and pointed out to the mother, a small "lump" the size of a pea in the floor of the mouth. Until the boy was 12 years old this "lump" grew very slowly, but then it began to enlarge so quickly that in less than a year, at the time of admission to hospital, it was so large that the boy could not close his mouth; in fact, he could not even bring his lips together. The tongue, the tip of which could be seen pressed against the upper incisors and hard palate, was only slightly movable. Liquid food only could be taken, and swallowing was performed with considerable difficulty, saliva dribbling from the angles of the mouth all day and night. The sublingual mucosa appeared to be tightly stretched by the cyst, and at one point on the left side, just above the lower lateral incisor tooth, the thinning was so marked that it seemed likely to give way at any moment. The cyst was removed through the mouth under general anaesthesia by simply incising the mucous membrane covering it, and then by blunt dissection, the fibrous band connecting the cyst wall and lower jaw being divided by scissors. Some now redundant mucous membrane was cut away, and the edges brought together by catgut sutures.



After removal, the cyst proved to be about one and a half times the size of a golf ball.

Should a sublingual dermoid be too large for removal in this way, an incision would be necessary, running from the



Sagittal section through tongue and cyst. D, dermoid cyst; P, hard palate; S, base of skull; V, i, ii, iii, iv, v, atlas, axis, and lower vertebrae: Hy, hyoid bone; A C, arytenoid cartilage; T C, thyroid cartilage; C C, cricoid cartilage; G Hy G, genio-hyoglossus; Man, lower jaw; Myh, mylo-hyoid; G H, genio-hyoid.

symphysis menti to the hyoid precisely in the middle line. The right and left mylo-hyoid muscles and genio-hypoglossi are retracted and the cyst dissected out, after puncturing it and removing the contents if necessary.

A CASE OF VIPER BITE IN EPPING FOREST.

BY

B. F. PENDRED, M.R.C.S., L.R.C.P.,

LOUGHTON, ESSEX.

CASES of viper poisoning in this country are either extremely rare or very infrequently recorded, and since the victim on this occasion was an observant, intelligent man, and well able to describe events and symptoms, I have thought it worth while to publish his story:

On a bright sunny morning in April of this year, Mr. F. H., aged 28 years, was cycling through Epping Forest. He dismounted, and sat down on a dry bank covered with thick undergrowth, and almost immediately felt a prick on the back of the right hand. On looking down he perceived an adder, drawn up, head raised, mouth wide open, and prepared to strike again. This occurred at 9.30 a.m. He immediately jumped up, put his foot on the snake, and cut it about the head with a penknife. Whilst doing this his hand was smarting as though stung by a wasp, and at the site of injury he noticed two red punctures, about half an inch apart, with a bluish-white swelling around them. Blood was trickling freely, and he sucked the place vigorously, drawing a quantity of blood, which he estimates at a tablespoonful. It was then about 9.35 a.m.

He now felt considerable pain in the small of the back and stiffness in both arms, like the pains of "muscular rheumatism," and his vision became blurred and indistinct. However, he was able to wrap the snake up in paper and tie it to his bicycle, which he then mounted and attempted to ride home, a distance of about four miles (9.40 a.m.). The pain in the back was not quite so bad, and the left arm had recovered, but he felt giddy.

After riding three-quarters of a mile he got some brandy at a public-house, and was seized with a violent shivering fit, which lasted about ten minutes, then he began to feel sick, and noticed a painful swelling of tongue and lips. Notwithstanding this, he got on his machine again, and struggled on for nearly two miles. A severe pain, paroxysmal in character, had now commenced in the pit of the stomach, and this, combined with the increasing pain in his injured arm, vomiting, and impaired vision, caused him at length to collapse. This was at about 10 a.m. He was picked up by a passing motor car, and conveyed to my surgery, which he reached at 10.25 a.m.

His condition was then as follows: He was unable to walk without support; his face was very pale, had an expression of great agony, and was covered with cold, clammy sweat. Breathing was short and jerky, with much groaning, speech spasmodic, one or two syllables at a time. He had intense pain in the epigastrium, which he described later as being like that produced by a blow on the "mark" or having the "wind knocked out" of one. The position of greatest ease was sitting huddled up with the head between the knees. There was retching and vomiting of clear, pale yellow gastric fluids, almost continuous. The pulse was 120, very soft, and difficult to find. The pupils were dilated; there was no sign of convulsions, and the pain in the hand and arm was completely submerged in the agonizing abdominal crises.

The two punctures on the hand could easily be seen, with a bluish-red areola around them, the hand and arm being already swollen and oedematous. On being informed of the nature of the injury, an elastic ligature was placed round the arm; but on learning that it was an hour since the bite, this was removed as being too late to be of any use. Strychnine and morphine were injected hypodermically, and a teaspoonful of sal volatile in water was given by the mouth. Seven minims of a solution of potassium permanganate, 1 in 30, were injected at the site of injury. About twenty minutes later the symptoms had slightly abated, and the patient was conveyed to the local hospital.

At mid-day the pulse was still rapid, but much better in quality. The severity of the abdominal pain was reduced, partly by hot bottles, and also by a second hypodermic injection of morphine. Retching continued, but was not so incessant.

In the evening the oedematous condition of the tongue and lips was evident, and the arm was very swollen and painful. Temperature was never above normal.

The following day all except the local symptoms had subsided.

On the third day the arm presented a peculiar bluish-green discoloration along the lymphatic routes, like a "black eye" about its fourth day; there were also ecchymoses in places. The axillary glands were tender, but not enlarged.

Recovery was rapid and uneventful, and the patient was out walking on the fifth day, feeling quite well except for stiffness and tenderness of the arm and some vague "rheumatic" pains about the loins and shoulders.

It is some comfort to know that in this country the adder, or viper, is very shy, and will always avoid other creatures if possible. Also that the venom, or the quantity of it, is not sufficient to kill a full-grown man in good health. But deaths have occurred to little children, aged and feeble persons, and drunkards.

The adder in this case was about 23 in. long, and its species was easily recognized by the wide, flat head marked with a V, and the zigzag marking all along the back. It is possible that, owing to the earliness of the

season, it was still in a rather lethargic state, thus permitting a human being to get close to it, otherwise it would have been off at the first approach.

AN ENORMOUS PAROTID TUMOUR IN A CHINESE WOMAN.

By HAROLD BALME, F.R.C.S.Eng.,
SCHOFIELD MEMORIAL MISSION HOSPITAL, TAI YUAN FU, NORTH CHINA.

THE accompanying photograph is that of a Chinese woman, aged 53 years, who was first seen by me at a mission station in Southern Shansi, North China, in February, 1910. According to her history, she had first noticed a lump some eleven or twelve years previously, which she described as a small, round, hard substance, near the right ear. The tumour had grown quite slowly for the first few years, but during the last eighteen months it had increased much more rapidly, until its dimensions and weight had become so considerable that she could not bear it unsupported. For the last few months she had been obliged to sit on the Chinese kang all day long supporting the tumour with her hands. She was advised to make her way to the Baptist Mission Hospital in Tai Yuan Fu, the capital of Shansi, where she arrived some days later.

Condition on Admission.

The patient was very sallow and emaciated on admission; this was attributed to the fact that she was an opium smoker. On the right side of the neck, extending from the malar bone to the level of the breast, and from the middle of the chin to some distance beyond the posterior border of the sterno-mastoid muscle, was an enormous tumour firmly attached to the structures in the parotid region but quite separate from the lower portion of the neck, which it overhung. The tumour was firm and elastic and definitely lobulated; its total circumference, so far as it could be measured, was considerably larger than that of the patient's own head. The skin was freely movable over the growth, on the surface of which several large vessels ramified; the tumour itself was apparently encapsulated.

Before any surgical interference was possible, the patient underwent the ordinary course of treatment for the breaking off of the opium habit, and it was not until she was almost free from opium, and in a more favourable condition of health, that an operation was attempted.

Operation.

With the assistance of Dr. Paula Maier, an enormous elliptical incision was made from the malar bone to the sternal end of the clavicle, and back to the lobe of the ear. Little difficulty was experienced in shelling out the tumour, though a great number of large vessels were met with, and in the enfeebled state of the patient these all needed to be isolated and clamped before section. There was a large hollow between the angle of the jaw and the mastoid process, forming the bed of the tumour, the surrounding bone having to a considerable extent atrophied from pressure. A large portion of skin, which was extremely redundant, was removed with the tumour, and the wound was closed in the ordinary way.

After-Treatment.

It was necessary to give two or three pints of saline intravenously before she left the operating table, and for the first twenty-four hours the patient suffered severely from shock. She needed close attention for some considerable time after this, and for the first two or three days Dr. Paula Maier remained almost continuously with her. Her subsequent recovery proved uneventful. When leaving the hospital she had a remarkable hollow behind the angle of the jaw, but I have since heard that this has to a large extent filled up.

Description of Tumour.

The tumour, which weighed over 20 oz., has been presented to the Museum of the Royal College of Surgeons, and the following report upon it has been received from Mr. Shattock:

Tumour from Neck of Chinese Woman.—This is a myxo-endothelioma. No cartilage found in the sections examined. Some parts of the stroma are very cellular, indicating rapid growth, but the zone of fibrous tissue limiting the growth excludes any sarcomatous change having occurred at the periphery.

PERFORATED ENTERIC ULCER: OPERATION: RECOVERY.

By WILLIAM WASHBOURN,
SURGEON TO THE GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.

J. M., male, aged 10 years, was admitted to the Gloucestershire Royal Infirmary on February 3rd, under Dr. Grosvenor, with enteric fever, characterized by dry tongue, constipation, much emaciation, and a temperature ranging up to 102°. There was a positive Widal reaction. On March 1st, during the fifth week of his illness, he suddenly became collapsed, and complained of pain in the right side of the abdomen. His temperature fell to 97° and the pulse rose from 110 to 156. The abdomen was retracted and hard, and there was considerable impairment of movement on respiration.

The house-physician, Mr. H. Hopps, recognizing that in all probability perforation had occurred, immediately sent for me, and within three-quarters of an hour of the onset of the collapse I opened the abdomen in the middle line below the umbilicus, and found a perforation of the ileum $\frac{1}{8}$ in. in diameter, some 3 in. from the ileo-caecal valve. The intestines were bathed in clear serous fluid, and there were about 3 oz. of a similar fluid in the pelvis. There was no other evidence of commencing peritonitis. I closed the perforation with a sero-muscular purse-string suture of fine silk, mopped the fluid from the pelvis, and inserted a small rubber drain. The wound was closed with through-and-through silkworm gut sutures.

The patient was back in bed within half an hour of his leaving the ward. The tube was removed twenty-four hours after the operation. Its insertion was probably an unnecessary precaution.

Recovery was uneventful, and the patient is now (May 9th) in excellent health.

AT the request of the Bishop of London, we draw attention to the seaside camps for London working boys. The first of them was opened some twenty-four years ago, and year by year the work has extended, until last year about 3,700 lads were provided with accommodation for a week or two at the seaside. Many readers have probably seen these camps, and none can have any doubt as to the physical and moral advantages likely to be derived from their upkeep. Each boy contributes to the expense on an age scale, but, of course, the total outlay is not covered thereby. Contributions will be gladly received by the secretary of the movement, Mr. A. Abel Bloxam, 22, Northumberland Avenue, W.C.

THE SCIENCE COMMITTEE
OF THE
British Medical Association.

REPORTS TO THE THERAPEUTIC SUBCOMMITTEE.

THE BACTERICIDAL ACTION OF THE CRESOLS AND ALLIED BODIES AND THE BEST MEANS OF EMPLOYING THEM.

By E. A. COOPER, B.Sc.,
BEIT MEMORIAL RESEARCH FELLOW; FORMERLY JENNER SCHOLAR, LISTER INSTITUTE OF PREVENTIVE MEDICINE.

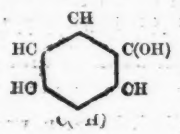
(Continued from page 1240.)

III.—The Bactericidal Powers of the Di-oxy and Tri-oxy Benzenes and of Quinone.

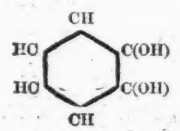
(i.) *The di-oxy-benzenes.*

There are three isomeric di-oxy-benzenes which may be regarded as derived from phenol by the replacement of a hydrogen atom in the benzene nucleus by the hydroxyl (O H) group. The constitutions of the substances are as follows:—

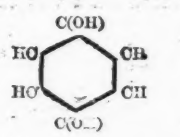
Resorcinol (Meta-di-oxy-benzene)



Pyrocatechol (Ortho-di-oxy-benzene)



Hydroquinone (Para-di-oxy-benzene)



These substances are white solids which are readily soluble in water.

Their solubilities at 15°c are given below:—
(Saturated solutions) Resorcinol 4 parts in 3 parts of water
Pyrocatechol 1 part in 3.2 ,, ,, ,,
Hydroquinone 1 part in 17 ,, ,, ,,

Callias ("Ueber das Resorcin," Wurtzburg, 1880) showed that resorcinol possessed considerable restraining power upon the growth of micro-organisms. A 1 per cent. solution was able to preserve many animal fluids and a 2 per cent. solution prevented milk becoming sour.

Duggan (Amer. Chem. Jour., Vol. VII., p. 62) has compared the inhibiting powers of these di-oxy-benzenes by determining the amounts required to prevent the development of B. subtilis in beef-peptone.

His results are expressed in the following table, the inhibiting power of phenol being taken as the standard:—

Substance.	*Inhibiting co-efficient.*
Phenol	1
Pyrocatechol	1
Resorcinol	1·25
Hydroquinone	1·50

The inhibiting powers of phenol and pyrocatechol were thus equal and were somewhat less than the inhibiting power of resorcinol, which in turn was less than that of hydroquinone.

The germicidal powers of these substances have been determined with B. typhosus in absence of organic matter. Their carbolic co-efficients are tabulated below:—

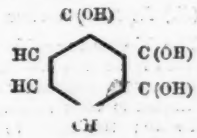
Substance	*Carbolic co-efficient.*
Resorcinol	·3
Pyrocatechol	·5
Hydroquinone	1·0

The introduction of a second hydroxyl group into the phenol molecule was thus accompanied by a considerable decrease in germicidal power, except in the case of hydroquinone the carbolic co-efficient of which was the same as that of phenol.

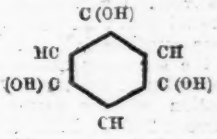
(ii.) *The Tri-oxy benzenes.*

There are three isomeric tri-oxy-benzenes, namely:—

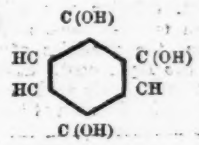
1.2.3. Tri-oxy-benzene, (Pyrogallol)



1.3.5. Tri-oxy-benzene, (Phloroglucin)



1.2.4. Tri-oxy-benzene, (Oxyhydroquinone)



These three compounds are very readily soluble in water.

Bovet ("Revue d'hygiene," 1879. p. 154) found that 2% solutions of pyrogallol inhibited the growth of bacteria and moulds while 3% killed bacteria. Duggan (l.c.) compared its inhibiting power with the inhibiting powers of phenol and dioxy-benzenes and found that pyrogallol was feebler than any of these compounds.

The germicidal powers of pyrogallol and phloroglucin were determined with B. typhosus, and their carbolic co-efficients are given below:—

Substance.	*Carbolic co-efficients.*
Pyrogallol	·77
Phloroglucin	under ·35

These two tri-oxy-benzenes were therefore weaker than phenol in germicidal efficiency.

The results with the di-oxy and tri-oxy-benzenes lead us to a conclusion of practical importance, namely, that high germicidal power is not to be sought in phenols containing numerous hydroxyl groups.

(iii.) *The germicidal power of Quinone.*

Thalhimer and Palmer in the Journal of Infectious Diseases, Vol. IX., 1911, pp. 172-189, have shown that quinone, which has the following constitution and which

is an oxidation product of many benzene derivatives, considerably exceeded phenol and cresols in germicidal power. They found that with B. typhosus it had a carbolic co-efficient of about 84. Quinone forms addition-products with many phenols. Phenoquinone—the addition compound of quinone and carbolic acid $C_6H_4O_2$, 2 C_6H_5OH—was also found to possess a high germicidal efficiency which was less, however, than that of quinone itself.

Some experiments have been made to compare the germicidal power of quinone with that of phenol and of an aliphatic ketone, such as acetone, $CH_3.CO.CH_3$, using Staphylococcus pyogenes aureus. The results are tabulated below:—

Substance.	*Carbolic co-efficient.*
Quinone	10
Acetone	Under ·075

The germicidal power of quinone upon Staphylococcus was therefore much greater than that of phenol, while the germicidal power of acetone was insignificant.

Quinone and many of its derivatives are not freely soluble in water, and it would, therefore, be of practical importance to prepare some fluid derivatives and emulsify them.

Quinone dissolves readily in crude carbolic acid, forming presumably a compound with the cresols. On warming soft-soap with this combination the soap dissolves, but the fluid product is decomposed by water with the formation of a black precipitate. Its germicidal power has not been determined.

IV. The Bactericidal Action of the Higher Tar-Acids.

A (*i.*) *In the absence of organic matter.*

(*ii.*) *In the presence of 3 per cent. dried fæces.*

The higher tar-acids used were various fractions of tar-acids derived from creosote-oil boiling from 205°-286°C. Preparations of these were made according to the formula used in the preparation of Liquor cresolis saponatus [50 per cent. Fraction; 50 per cent. soft-soap; the mixture being warmed until all the soap had dissolved]. Reddish-brown fluids were in this way obtained which were miscible with water giving milky fluids. The milkiness of these dilutions is due to the fact that the addition of water to the soap-suspensions of the higher tar-acids causes a separation of the tar-acids in a fine emulsion. A 1 per cent. dilution of the soap-suspension of Fraction IV. boiling between 205° and 209° C., however, was clear, but a 2·5 per cent. dilution was milky. This was probably due to the high cresol-content and low xylenol content of the preparation, the particles of insoluble tar-acid becoming so scarce in the 1 per cent. dilution that the milkiness disappeared.

The carbolic acid coefficients of these preparations were determined with Staphylococcus pyogenes aureus both in the absence and in the presence of particulate organic matter.

Table XI.

Tar-acid body emulsified.	Carbolic acid co-efficient.		Properties of dilutions.	
	In the absence of organic matter.	In the presence of organic matter. 3% fæces.	2·5%	1·0%
M Fraction IV. 205-209°C	14	1·2	Turbid. Dark-yellow.	Clear yellow.
N „ V. 209-213°C	2·4	1·9	Turbid. Dark-yellow.	A little turbid. Yellow.
O „ VI. 213-218·5°C	3.0	1·9	Turbid. Reddish-yellow.	Somewhat turbid. Yellow.
P „ VII. 218·5-225·5°C	3.8	2·0	Turbid. Reddish-yellow.	Somewhat turbid. Yellow.
Q „ VIII. 225·5-240°C	4·5	2·0	Yellow and turbid.	Yellow and turbid.
R „ IX. 240-247°C	8.7	2·4	Pink and milky.	Pink and milky.
S „ X. 274-286°C	11 to 14	1·3	Pink and Milky. Considerable immediate separation of emulsified tar-acid.	

It is seen that the carbolic-acid coefficients rise as the boiling points of the tar-acids rise. This fact is taken advantage of in various proprietary preparations. It is due not only to the fact that the bactericidal powers of the members of the phenol series increase with their molecular weights but also to the intensifying effect of emulsification upon bactericidal power. Chick and Martin (*Journal of Hygiene*, Vol. VIII., No. 5, Nov., 1908) showed that the increased efficiency of a germicide in the emulsified form was caused by an appropriation of the particles of the tar-acids by the bacteria. This appropriation was demonstrated by mixing a suspension of bacteria and an emulsion of tar-acids together and after allowing to stand for a short time centrifuging. The bacteria carried down a large amount of the tar-acids, while there was very little settlement when the tar-acid emulsion alone was centrifuged. By suitably arranging the proportions of tar-acids and bacteria the emulsion completely lost its opacity.

In consequence of this adsorption of the particles of tar-acids by the bacteria the latter must rapidly become surrounded by a much greater concentration of disinfectant than that which exists throughout the liquid, and by this local accumulation of bactericide the efficiency is greatly increased. Particulate organic matter also removes phenols and cresols from their aqueous solutions, but the extent of absorption is very much less than that which goes on in the case of emulsions, and this explains the superiority of emulsified disinfectants as bactericides. This effect of emulsification was not noticeable in the case of soap-suspensions of the lower tar-acids such as the cresols because at the dilutions used in determining bactericidal power the cresol had passed entirely into aqueous solution. This insolubility of the higher tar-acids thus enables the bactericidal test to give a truer value for the disinfecting-power of their soap-suspensions.

We have seen that the presence of particulate organic matter (3 per cent. fæces suspension) had very little influence upon the bactericidal power of Liquor cresoli saponatus. With analogous preparations of the higher tar-acids this was not the case. The presence of the organic matter had a marked depreciating effect upon the bactericidal powers of these preparations and this increased with the boiling-point of the fractions. The factor of emulsification had again come into operation. An emulsified disinfectant is much more greatly reduced in efficiency by particulate organic matter than a dissolved one; and, as in the dilutions of the cresol-preparations used in carrying out their standardisation the tar-acids were dissolved in water and in those of the higher tar-acid preparations they were still emulsified, the sensitiveness of the latter and the resistance of the former to particulate organic matter are both explicable.

This method of emulsification with soft soap not only afforded a means of obtaining some insight into the bactericidal action of the tar-acids, but was also practicable for the production of preparations containing the cresols (Crude Carbolic Acid and Tar-Acid Fractions I., II., and III.) which yielded clear solutions with water and which were superior to, or at least about equal to, carbolic acid in bactericidal power.

This method, however, was not serviceable for the production of preparations of the higher tar-acids suitable for practical purposes, since the emulsions of the tar-acids generated on diluting these preparations with water were not permanent, but in the course of a few hours the heavy tar-acids began to settle down forming an oily layer on the bottom of the vessel. Further, it was not found possible to emulsify even temporarily Fraction No. X. 276-284° C. with soft soap. On warming equal weights of this tar-acid fraction and soft soap a dark-coloured fluid was obtained, from which on dilution with water there was considerable separation of unemulsified tar-acid, which immediately settled down, and for this reason an accurate estimation of germicidal action of the preparation, the carbolic acid coefficient of which varied from 11 to 14, was not possible.

In the presence of lower fractions these tar-acids of higher boiling-point would no doubt form more stable emulsions.

A search was therefore made for more efficient emulsificants than soft soap, and after examining the emulsifying properties of various substances, which are described in Chapter V., castor-oil soap was chosen as the emulsificant for the higher tar-acids.

It was found necessary to vary the proportions of soap and tar-acids in dealing with the different fractions. The higher the boiling-point of the tar-acids the higher was the proportion of soap necessary to emulsify these.

Fractions No. 4 (205°—209° C.), 5 (209°—213° C.), 6 (213°—218·5° C.), 7 (218·5°—225·5° C.), and 8 (225·5°—240° C.) of the tar-acids were emulsified according to the following formula by the method described in Chapter V. :—

Tar-acid	50
Castor oil	20
Potash	5
Water	5; all by weight.

Fractions No. 9 (240°—274° C.) and 10. (274°—286° C.) were, however, emulsified by the following formula :—

Tar-acid	50
Castor oil	35
Potash	8
Water	7; all by weight.

The products were dark, translucent, homogeneous fluids, which were not very viscous and which were freely miscible with water. Those containing fractions 4, 5, 6 and 7 gave at first clear dilutions with distilled water, which very soon became milky. With tap-water the dilutions were immediately milky owing to precipitation of some of the castor-oil soap by the calcium and magnesium salts and consequent

separation as a white emulsion of some of the tar-acids. The disinfectant-fluids containing Fractions No. VIII., IX. and X., however, immediately yielded milky dilutions with both distilled and tap-water owing to the greater insolubility of the constituent phenols, which on separation were emulsified by the soap.

These disinfectants prepared with castor-oil soap, unlike those containing soft soap, formed stable emulsions with distilled water, there being little deposition of tar-acid on standing. The emulsions with tap-water, however, were just a little less stable owing to the precipitation of some of the emulsificant (soap).

The effects of tap-water and of the age of the emulsions upon germicidal power are described later on in this chapter.

Below are tabulated the results of the determinations of the germicidal powers of the preparations of the higher tar-acids emulsified by means of castor-oil soap.

(iii.) The depreciating effect of fæces upon germicidal power was much greater in the case of the preparations of tar acid fractions VIII., IX., and X., giving very milky emulsions with water, than in the case of the preparations of fractions IV. to VII., that gave milky emulsions less readily. The carbolic coefficients of the latter in presence of fæces were often equal to or even greater than those of the highest fractions. This shows that for disinfection in presence of fæces there is no advantage in employing preparations of the highest boiling-point tar acids.

(iv.) Although phenol exerted under the same conditions nearly equal germicidal powers upon B. typhosus and Staphylococcus, yet the carbolic acid co-efficients of these tar-acid preparations were greater in the case of B. typhosus than of Staphylococcus. This meant that the latter was more resistant to the germicidal action of these disinfectants than B. typhosus.

TABLE XII.

Nature of Phenols Emulsified with Castor-oil Soap and Formula of Preparation.	Germicidal Power.				Concentrations recommended to be used in practice.					
	Staphylococcus pyogenes aur.		B. Typhosus.		For washing hands and sterilising instruments (absence of organic matter).		For disinfection of typhoid stools.		For disinfection of pus from empyæmas.	
	Carbolic-acid co-efficient in the absence of fæces.	Carbolic-acid co-efficient in the presence of 3 per cent. fæces.	Carbolic-acid co-efficient in the absence of fæces.	Carbolic-acid co-efficient in the presence of fæces.	(Concentrations to be added to ½ their volume of stools or pus.)					
					At 20°C.	At 35°C.	At 20°C.	At 35°C.	At 20°C.	At 35°C.
T. Fraction IV.— (225°–200° C.) Tar-acid ..... 50, Castor-oil ..... 20, Potash ..... 5, Water ..... 5 (All by weight.)	3·7	2·2	6·8	2·4	1%	·5%	1·5%	·75%	—	—
U. Fraction V. and VI.— (mixed) (205°–218° C.). Tar-acid ..... 50, Castor-oil ..... 20, Potash ..... 5, Water ..... 5 (All by weight)	5·5	2·8	7·2	3·1	·5%	·25%	1·5%	·75%	—	—
V. Fraction VII.— (218·5°–225·5° C.) Tar-acid ..... 50, Castor-oil ..... 20, Potash ..... 5, Water ..... 5 (All by weight.)	5·7	3·6	9·5	3·0	·5%	·25%	1·5%	·75%	—	—
W. Fraction VIII.— (225·5°–240° C.) Tar-acid ..... 50, Castor-oil ..... 20, Potash ..... 5, Water ..... 5 (All by weight.)	8·6	2·4	14·1	3·2	·25%	·1%	1·5%	·75%	1%	·5%
X. Fraction IX.— (240°–274° C.) Tar-acid ..... 50, Castor-oil ..... 35, Potash ..... 8, Water ..... 7 (All by weight.)	11·6	2·3	13·8	3·6	·25%	·1%	1·5%	·75%	1%	·5%
Y. Fraction X.— (274°–285° C.) Tar-acid ..... 50, Castor-oil ..... 35, Potash ..... 8, Water ..... 7 (All by weight.)	12·8	1·8	13·0	2·0	·25%	·1%	1·5%	·75%	3%	1·5%

From these results the following conclusions can be drawn :—

(i.) As was found in the case of preparations of the tar acids made with soft soap, the germicidal power of those made with castor oil soap increased with the boiling-points of the constituent tar acids.

(ii.) By comparing these results with those tabulated in table XI. it was found that the castor oil soap preparations of the higher tar acids containing a higher proportion of phenols exceeded the corresponding soft soap preparations in germicidal power. Further, the castor oil soap preparations gave much more stable emulsions with water.

To this generalisation there were two exceptions. The carbolic acid coefficients of the preparations containing the two highest tar acid fractions, IX. and X., were the same, whether the organism was B. typhosus or Staphylococcus. This was an interesting case of selective disinfection and showed that Staphylococcus, compared with B. typhosus, was relatively more susceptible to the germicidal action of the highest tar acids than to that of the lower acids.

The Germicidal Power of Emulsified Crude Mixture of Tar Acids from Creosote-Oil.

The "crude tar acids" form the mixture of phenoloids

obtained by extracting "creosote oil" with soda and decomposing the soda compounds of the tar acids with acids.

By the fractional distillation of this mixture of phenols the various fractions of tar acids are obtained, the bactericidal powers and methods of emulsification of which have been described above.

This mixture of tar acids was found to be best emulsified by means of castor oil soap. The method of emulsification is described in Chapter V. The proportions used were :—

Tar Acid	50
Castor Oil	20
Potash	5
Water	5

The product was a dark-coloured, homogeneous fluid, which gave a permanent pink emulsion with water. Its bactericidal powers under various conditions have been determined, and are set forth in the following table :—

TABLE XIII.—DISINFECTANT Z.

STAPHYLOCOCCUS.		B. TYPHOSUS.				Concentrations recommended for use in practice.					
						Disinfection in absence organic matter. Sterilisation of hands, instruments.		Disinfection in presence of faeces.		Disinfection of pus.	
In the absence of organic matter.		In the absence of organic matter.		In the presence of faeces.				2 volumes of concentration to be added to 1 of stool or pus.			
Carbolic co-efficient.	Concentration killing in 15 mins.	Carbolic co-efficient.	Concentration killing in 15 mins.	Carbolic co-efficient.	Concentration killing in 15 mins.	At 20° C.	At 35° C.	At 20° C.	At 35° C.	At 20° C.	At 35° C.
2·5	3·6 in 1000	6·3	1·1 in 1000	2·4	4 in 1000	1%	·5%	1·5%	·75%	1·5%	·75%

This preparation of the crude mixture of tar acids thus considerably exceeded phenol and the cresols in germicidal power. Its efficiency was greatly decreased by the presence of particulate organic matter.

B.—*The value of some of these disinfectants in the disinfection of pus.*

Since pus contains organic matter—in the particulate state as pus corpuscles, which frequently undergo fatty degeneration and are, therefore, rich in fat, and in the dissolved state as serum proteins—it was to be expected that its presence would greatly reduce the germicidal power of disinfectants. The pus employed in the experiments came from a case of empyæma. It contained no sporing organisms, but a large number of rod-shaped bacteria similar to B. coli and a few chains of cocci. The organisms grew rapidly on agar, forming a thick creamy growth. The total solids of the pus was first determined by drying a known weight of the well shaken pus over the wath-bath and, when most of the water was driven off, by adding a little absolute alcohol to facilitate the removal of the remaining water from the fatty mass. The pus was finally dried at 105° C.

The sample of pus contained 10 per cent. by weight of total solids. Its specific gravity was 1·016 at 15° C.

The method of determining germicidal power in the presence of the pus consisted in rapidly adding at one minute intervals known volumes of a concentration of a disinfectant to a series of 1·5 ccs. of pus to which varying volumes of water had been added. The volume of disinfectant added was such to make the total volume 5 ccs. The tubes were then subcultured in the way described in Chapter I.

As 1·5 ccs. of pus were always employed, the amount of solid matter present was always ·152 gms. in 5 ccs. of disinfectant, or 3 per cent. as in the case of the experiments with faeces. The results of the experiments are tabulated below (Table XIV).

From these results it is seen that the carbolic coefficients of the emulsified phenols in the presence of pus decrease as the series of higher tar acids is ascended, until the highest fraction (X.) is about as efficient as the cresols.

It, therefore, appears that the particulate organic matter in pus behaves as the particulate organic mater in fæces in reducing the germicidal value of emulsified disinfectants.

C.—*The influence of tap water upon the germicidal efficiency of disinfectants containing the higher tar acids.*

(*1*). *The effect of tap-water upon germicidal power in absence of organic matter.*

The determination of germicidal power was carried out by

TABLE XIV.

DISINFECTANT.	Concentration of disinfectant required to disinfect the pus in 15 minutes.	Concentration of phenol required to disinfect the pus in 15 minutes.	Carbolic Acid co-efficient.	Concentrations recommended for use in practice. One volume of the concentration of the disinfectant to be added to half its volume of pus.	
				At 20° C.	At 35° C.
E Crude Carbolic Acid (Cresols) emulsified with an equal weight of soft soap ...	8 in 1000	10 in 1000	1·2	3%	1½%
W Fraction VIII. Tar-acids (225·5°—240°C.) emulsified with castor oil	2 in 1000	12 in 1000	6·0	1%	½%
X Fraction IX. Tar-acids emulsified with castor oil	2·2 in 1000	11 in 1000	5·0	1%	½%
Y Fraction X. Tar-acids emulsified with castor oil	7·4 in 1000	11 in 1000	1·5	3%	1½%
Mixture of Crude Tar-acids emulsified with castor oil	4·0 in 1000	11 in 1000	2·7	1·5%	·75%

the method already described, except that tap-water was employed in making up the dilutions. Control experiments with distilled water were carried out at the same time.

The results are tabulated below :—

TABLE XV.

Disinfectant.	Organism.	Dilutions made with distilled water.		Dilutions made with tap-water.	
		Carbolic-acid co-efficient.	Concentration killing in 15 mins.	Carbolic-acid co-efficient.	Concentration killing in 15 mins.
Phenol	Staphylococcus	—	9·5 in 1000	—	12·0 in 1000
W. Fraction VIII.— Emulsified with Castor-oil Soap	,,	8·6	1·1 in 1000	9·2	1·3 in 1000
Y. Fraction X.— Emulsified with Castor-oil Soap	B. Typhosus ..	13·0	·58 in 1000	14·6	·65 in 1000
Phenol	,,	—	7·5 in 1000	—	9·5 in 1000
Y. Fraction XI.— Emulsified with Castor-oil Soap	Staphylococcus	12·8	·78 in 1000	12	1·0 in 1000
Phenol	,,	—	10 in 1000	—	12 in 1000
V. Fraction VII.— Emulsified with Castor-oil Soap	Staphylococcus	5·7	1·4 in 1000	6·1	1·8 in 1000
Phenol	,,	—	8 in 1000	—	11 in 1000
X. Fraction IX.— Emulsified with Castor-oil Soap	Staphylococcus	11·6	·82 in 1000	9·6	1·1 in 1000
Phenol	,,	—	9·5 in 1000	—	11·4 in 1000

The presence of tap-water, therefore, appears to decrease by 15 to 30% the germicidal power of the higher tar acids. Depreciation to nearly the same extent was observed with phenol. This does not seem to be experimental error, as the results are consistent (see Table XV.) The explanation is not obvious.

(ii.) The effect of tap-water upon the stability of the emulsions.

As disinfectants will in practice be diluted with tap-water, it is important that the emulsion shall be stable when so diluted. Many emulsified disinfectants on the market show considerable deposition when diluted with tap-water, the deposition varying in extent according to the hardness of the water.

The sample of tap-water used in the experiments came from the Thames Valley.

In the experiments carried out to determine the influence upon stability of the emulsions dilutions of various disinfectants were made with distilled and tap-water and their germicidal power was immediately determined. The dilutions were then allowed to stand several days. After that time there was usually a little separation of tar acid from emulsions made with both distilled and tap-water and the germicidal powers of the supernatant liquids were determined, shaking up being carefully avoided.

The results of these experiments are set forth in Table XVI.

TABLE XVI.

Disinfectant	W. Fraction VIII. emulsified with castor-oil soap.	Y. Fraction X emulsified with castor-oil soap.	V. Fraction VII. emulsified with castor-oil soap.
Organism ..	Staphylococcus.	B. Typhosus.	Staphylococcus.
Carbolic Acid co-efficient determined with *distilled* water and *before* standing	8·6	12·6	5·7
Carbolic Acid co-efficient determined with *distilled* water and *after* standing	9·2	10·0	6
Time of standing ..	48 hrs.	96 hrs.	48 hrs.
Carbolic Acid co-efficient determined with *tap water* and *before* standing	9·2	14·6	5·64
Carbolic Acid co-efficient determined with *tap-water* and *after* standing	6·5	12·0	5·4
Time of standing ..	48 hrs.	96 hrs.	48 hrs.

The emulsions of the higher pheno's in some cases, therefore, tended to fall in germicidal power on standing a few days and the depreciation was generally greater in the case of the emulsions made with tap water than of those made with distilled-water.

These facts point to the advisability of either employing in disinfection freshly made emulsions of the higher phenols or shaking up the emulsions before use when they have been made for some time.

(To be continued.)

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

FUNGATING ULCER TREATED WITH DECOCTION OF COMFREY ROOT.

History of Case.—W. C., a cab proprietor, aged 83, when I first saw him on October 23rd, 1911, had been suffering for some months from shortness of breath and swelling of the legs. He was removed at once to a nursing home.

His condition was very grave. He had very marked arterio-sclerosis, a loud aortic systolic murmur, with a feeble pulse and low temperature. The urine contained blood, albumen, and casts, but no sugar. There was marked oedema of both legs and some ulceration from neglect. He was treated with cardiac tonics and diuretics.

Fig. 1.—January 29th, 1912.

During December, 1911, a fungating ulcer appeared on the dorsum of the left foot. It rapidly encroached on the foot, eventually exposing the metatarsal bones. It was treated unsuccessfully with boracic fomentations and baths, iodoform, red lotion, calamine lotion, and lead and opium.

In January, 1912, the patient's condition appeared hopeless, he became at times delirious, and was removed home to die.

The first photograph was taken on January 29th, 1912, and needs no description. I then advised four-hourly fomentations made with decoction of comfrey root. The ulcer began to fill up rapidly. The patient's condition at the same time improved.

The second photograph was taken on April 29th, 1912, and requires no comment.

Fig. 2.—April 29th, 1912.

I am indebted to Mr. Horace Coulson, chemist, for his aid in taking the photographs and preparing the decoction. The decoction was made by simmering 1 oz.

of the roots in a pint of distilled water for twenty minutes and occasionally adding a little boiled water to make up for evaporation.

Cambridge. CHARLES SEARLE, M.B., B.C.

WARMTH IN BED.

IT is obvious to the observant layman that whilst many doctors preach, few practise, the principle of open windows. Their houses are often in busy thoroughfares, and the need of quietude may be a special reason in their case, but the fact remains. Perhaps it is from their want of practical experience that their advice—"Sleep with your windows wide open"—does not meet with general response. It is not uncommon to find that patients have abandoned the system because of such affections as stiff-neck, pains in the shoulders and arms, etc.

A likely cause for such troubles is to be found in the difference of clothing afforded to the back of the neck and the shoulder girdle by day and by night. This is particularly noticeable in the case of men who wear during the day a closely embracing collar and a coat often fortified with some accessory deltoid in the form of padding, all of which, beside waistcoat, shirt and vest, are discarded at night for a thin pyjama jacket or nightshirt. However closely one may "snuggle," it is hardly possible to keep the shoulders as warm as the body, and any restlessness immediately exposes them. Such restlessness is apt to happen when open windows are first adopted.

In all but fat subjects the cervical vertebrae and the nerves issuing through them have but scanty covering. Some creaking of the joints in connexion with the atlas, axis, and occipital bones is not infrequently found in cases of rheumatic pains in the shoulders, and so-called neuritis of the arm. Modern treatment of these conditions, which is largely directed to the cervical spine, is so successful that it would seem reasonable to adopt some preventive measures to guard this area against prolonged exposure to the cold of night. Rheumatic pains in the shoulders are so prevalent that some common cause must exist, and, without wishing to too strongly urge the point, is it not possible that this area, whose sensibility to cold and warmth is so blunt, may be adversely affected by vicissitudes of temperature without our being aware of it?

This is not a favourable time of the year to advocate the wearing of additional clothing at night, but I would suggest that when the advice of opening windows is given it should be accompanied by a recommendation to wear a short knitted woollen cape with armholes but without sleeves. This conduces to sleep, and helps to ward off rheumatic pains.

OLIVER BEDDARD, M.R.C.S., L.R.C.P.Lond.

London, E.C.

WIRING SAME FRACTURED PATELLA TWICE.

I OBSERVE in the JOURNAL of May 25th, p. 1181, notes on wiring of the same patella twice in eight months. As that case is stated to be the first recorded, the following brief notes of a case which I was called upon to attend may perhaps be considered worthy of publication.

On July 15th, 1910, W. H., a farmer's labourer, aged about 35, small, but very muscular, tripped over a stone in the dark, and in trying to save a fall fractured his left patella by muscular action. He would not consent to operation at first, and considerable effusion and some inflammation occurred in the joint.

Ten days later he consented to be removed to the infirmary, where the patella was carefully wired by the surgeon. He made an excellent recovery, and returned to his work for several weeks.

On December 13th, 1910, five months later, he tripped over a pail in the dark, and in attempting to recover his balance the left patella was felt to give way. On examination, I found a space of about 1 in. between the upper and lower fragments, with absence of crepitus. He was sent next day to the infirmary, and the patella was again wired together, it being found that the original wire prevented the fragments from separating as widely as on the first occasion.

Recovery was uneventful and complete, and the man returned to his usual work with no lengthened convalescence.

A. H. H. HOWARD, M.R.C.S., L.R.C.P.,
Late House-Surgeon, Charing Cross Hospital.

Little Hadham, Herts.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

DORSET AND WEST HANTS BRANCH.

Bournemouth, Wednesday, May 22nd, 1912.

Mr. F. WINSON RAMSAY in the Chair.

Prolapse of the Uterus.

THE PRESIDENT (Mr. Winson Ramsay) gave his presidential address on prolapse of the uterus. He chose his subject from its importance to the general practioner and the general difficulty in the treatment of the condition. He traced the history of its early recognition, and described some of the strange methods employed in its treatment, referring to the early use of mechanical support. He then described the anatomy of prolapse, discussing the relative importance of the serous, ligamentous, and muscular structures closing the outlet of the pelvis, the principal support being given by the levator ani, the parametria being sufficient to support the organ during temporary relaxation of the muscle, but giving way if exposed to prolonged strain. Injury to both connective tissue and muscle was the most frequent cause of prolapse, the first stage of which was retroversion of the uterus. The symptoms having been related, the President passed to the diagnosis, and laid stress on the importance of examining the patient in the erect posture, by which alone the slighter displacements could be recognized. The treatment of prolapse was palliative or operative; the former included the use of pessaries, now usually the ring or Hodge, or, in procidentia, the cup and stem pessary. Operations on the broad or round ligaments had been rightly discarded; he advised ventrisuspension in young women, ventrifixation in women over 40, or in some cases vaginal hysterectomy; in procidentia no operation had been permanently successful. The President described a new operation he had devised, bringing up the pelvic fascia to the rectus fascia, the uterus being removed at the level of the internal os; a strip of tendon from each external oblique was passed through the stump and fixed to the rectus fascia. He had only performed the operation seven times during the past year; the lapse of time had been too short to allow judgement of the permanent utility of the operation.

Hernia of Uterus and Ovaries.

Dr. T. H. SANDERSON WELLS read notes of a case of hernia of the uterus and ovaries in an infant of 3 months. The patient was a little girl of healthy appearance, suffering from a swelling in the right groin, rightly diagnosed as femoral hernia. No impulse was felt, the swelling was painful on pressure, otherwise the child did not seem to suffer any pain. The swelling got larger and was operated on. At the operation the right ovary was found to be in a state of gangrene. The child had been perfectly well since.

Dr. WHITTINGDALE said he had been present at the operation on the first recorded case of ovarian hernia.

The PRESIDENT remarked that it would be interesting to follow the girl's life.

Obstinate Hiccough.

Dr. W. JOHNSON SMYTH gave a brief account of a case of obstinate hiccough in a man of 45. The hiccough occurred every ten seconds. The patient's condition was very serious; sleep was prevented, and he lost his appetite. All the usual remedies were tried, including morphine, which relieved the condition for about an hour, but caused severe vomiting. Dr. Smyth noticed that the pharynx was slightly congested and prescribed a spray of 10 per cent. cocaine, which effected an instantaneous cure of the hiccough.

Dr. F. C. BOTTOMLEY had found a mixture of belladonna successful in two cases.

Dr. ALEXANDER reported a case which lasted fourteen days and was cured by 2 grains of zinc oxide.

Mr. MAHOMED mentioned a case in a patient dying of cancer of the liver.

Dr. HYLA GREVES described a case in which a few doses of tinct. iodi stopped the hiccough, which had lasted for two years.

The PRESIDENT said he had had a case of hiccough which came on after an operation for malignant bowel and lasted for a week. He tried everything, but in the end it stopped of its own accord.

Removal of Scirrhus of Breast.

Mr. A. HEYGATE VERNON made a communication on the operation for removal of scirrhus of the breast. He said that it was increasingly evident that recurrence was becoming less frequent since *x* rays had been used after operation. It was maintained by some that lymphatic glands have a high resisting power to cancer, and that it would be better not to remove the axillary glands. He himself had not been convinced that this was true, and he had not had the courage to leave the glands; but if he were operating on a case of doubtful malignancy he would remove the breast alone; then, if on section the tumour was found to be malignant, the question would arise, Should the patient be subjected to a second and more severe operation, or should the axillary glands be left to *x*-ray treatment?

Mr. F. BELBEN thought they were not justified in not clearing out the axillary glands in an early case of scirrhus, but he would use *x* rays in any recurrence.

Dr. FOWLER said the question was whether removal of the glands did not take away one of the natural defences against dissemination of the growth. He had seen no serious recurrence in the glands in cases that had had adequate *x*-ray treatment during the last three years.

Dr. SABERTON said that a vast amount of pain was caused by swelling of the arm, which occurred very frequently, and which would, of course, be avoided if the incision was not carried to the axilla.

Dr. BLAKE mentioned 2 cases which were operated on for scirrhus of the breast. Recurrences took place in the glands above the clavicle, which were removed. Later the concatenate glands became infected, and had been kept in check by *x* rays.

Dr. T. H. SANDERSON WELLS asked Mr. Vernon whether the subsequent *x*-ray treatment would be more effective if the axillary glands were left.

Mr. BERNARD SCOTT thought there was no doubt that cases did better now than they did twenty years ago, when the glands were not cleared out; the only question was whether it would be safe to leave the glands for the *x* rays to deal with. He asked Dr. Fowler how long his experience had been. Five years was not enough to prove the treatment successful; he had operated on a growth twenty-seven years after the original operation.

The PRESIDENT said that the application of *x* rays opened up a wide field for discussion. He considered that the glands should be removed, and never had trouble with swelling of the arm afterwards.

Mr. VERNON, in reply, said he was not satisfied at present that it would be safe to leave the glands, but in a case such as he had described, where it was a question of completing the operation in a breast found malignant after operation, he put the facts definitely before the patient; it was sometimes more difficult to get consent to the second operation than it had been for the first.

Dr. FOWLER, replying to Mr. Scott's question, admitted that experience of *x*-ray treatment was necessarily too short to admit of proof; but he claimed that the results of combined operation and *x*-ray treatment were already better than from operation alone, and he was very glad that Mr. Vernon was able to confirm this opinion.

PROFESSOR KRAEPELIN has resigned his membership of the Obermedizinalausschuss (the controlling medical body which is appointed by the Bavarian Government) as a protest against the attitude of the Bavarian Home Office toward the project for the erection of inebriate homes. The Provincial Council of Upper Bavaria and the Municipal Council of Munich have given liberal support to this scheme, but the Government, being asked for the small sum of from £250 to £500, referred the matter to the Home Office, and this department has refused to include the grant in the Budget. Professor Kraepelin considers that by resigning his position on the official body he lays the responsibility of this parsimony and ill-advised policy on the shoulders of the Government.

Reports of Societies.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Tuesday, May 21st, 1912.

Dr. WILLIAM DAWSON in the Chair.

IN connexion with the bill which had recently been read in the House of Commons for dealing with the feeble-minded, the meeting unanimously passed the following resolution after discussion:

> That the Medico-Psychological Association is strongly of opinion that the authority which will have to administer the new Feeble-minded Persons Control Act should be constituted at once, in anticipation of any amalgamation, such as is contemplated by Section 62; and that, secondly, such body in the first instance should consist of the Commissioners in Lunacy with necessary additions, this principle being in strict conformity with the recommendation of the Royal Commission on the Feeble-Minded, and already being provided for in the case of Scotland in Section 67 (1) of the bill.

Classification of Various Forms of Dementia.

Dr. ROBERT JONES, in a paper on classification of the various forms of dementia, said he wished to elicit opinion as to what was meant by dementia; and as to whether there was such a mental state as one of partial responsibility. His own belief was that there was such a thing as partial insanity and that there was only one form of dementia, namely, primary dementia. One of its main characteristics was unemotionalism, although will power and conductivity might be present.

Sir THOMAS CLOUSTON (Edinburgh), in a written communication, said the term "dementia" should be used to indicate incurable non-congenital conditions of mind and its enfeeblement. New names should be formed and used for acute dementia, and for dementia praecox. The dominating form was the secondary or "sequential," and it covered five-sixths of the incurably insane; it was the type of all the hereditary forms of mental disease. It was the great reversionary condition into which the brain cortex devoted to mind fell, and all the preliminary symptoms in adolescent insanity and dementia praecox were mere preludes and parts of secondary dementia. He could not conceive any classification of mental diseases in which it did not form an essential part; but being one progressive phase of the progressive cortical destruction in general paralysis, he would like to see its use discontinued in connexion with that disease.

Dr. MERCIER wrote that he had always understood dementia to mean any degree of deterioration of mind, whether temporary or permanent, and whether associated or not with active manifestation, such as delusions or disorderly conduct. He had considered it to mean that the demented person was unminded, or deprived in some degree of some portion of his mind, especially of his judgement and intelligence. In every case of insanity there was some loss of judgement, of intelligence, or of moral rectitude, which justified the title of dementia in the sense of weakening or defect of mind. The use of the term "precocious dementia" implied that, in advanced life, dementia was the rule, and that in so-called precocious cases this decay had set in earlier than usual. The term "partial" as applied to dementia might be understood in either of two senses: either to the degree in which the whole of the faculties of the mind were impaired, or to the several faculties as being impaired singly, the others remaining intact. In the first sense the term "completely demented" was not infrequently used. But consideration would show that if a person were completely demented—that is, if the whole of his mind was lost—he must be totally unconscious, and therefore, although the term was accurate when applied to coma, it was inaccurate if applied to any loss or defect of mind short of coma. Any person demented to a less degree than this suffered from partial dementia. In the second sense, the term "partial dementia" raised the questions whether (1) any one or more faculties of mind might be impaired while the rest remained intact; and (2) whether, if this did not occur, one or more faculties might be impaired to a graver degree than others. The occurrence of aphasia settled the first of these questions, for the faculty

of using the right words was impaired, without, apparently, any sensible impairment of any other faculties. Responsibility—that is, liability to punishment—was determined by the same rules in clinical dementia as in other cases of insanity. In every case of insanity a negative as well as a positive factor existed. What was important was not the delusion but the loss of judgement that would prevent the delusion from being entertained. What was important was not the outrageous conduct of the maniac but the loss of inhibition of conduct that allowed the conduct to occur. Those losses were what he meant by the unminding, the deprivation of mind, the dementing in a literal sense, to which he attached the term "dementia."

Dr. Hayes Newington agreed with the view expressed by Dr. Mercier.

Dr. Yellowlees agreed with what Dr. Jones had said about primary dementia. It was a condition by itself, and began in mental enfeeblement, not only in one of the mental areas, but in all of them more or less. That mental enfeeblement was a gradual, progressive, and hopeless condition. There might be intermissions, but the general trend was downwards. He also agreed with Dr. Jones on the question of partial responsibility. Again and again in Scotland cases had occurred in which the establishment of the fact of a prisoner having partial mental disorder led the judge to modify his sentence.

Dr. G. M. Robertson (Edinburgh) thought Dr. Jones's question as to whether dementia might be partial and whether it might be complete, would be answered by most in the affirmative. The position was very well described in a simile by Sir George Savage—namely, that dementia was various in the same ways as the ruins of a house might be. In one case the house might be destroyed by earthquake, in another by fire, and in a third it might simply fall into decay owing to age and neglect. By substituting the mind for the house the simile was very apt. Some noted French alienists agreed with those in Scotland that dementia was not a disease at all, for a disease progressed, whereas dementia did not necessarily do so. It was rather the result of a scarring—a terminus. There was the want of an English term to denote the condition in which dementia developed. But a New York author had given to it the name "primary mental deterioration." That seemed to be a good description. Cases of dementia sometimes recovered.

Dr. Seymour Tuke instanced some cases of apparent recovery from what was regarded as primary dementia.

Dr. Yellowlees, answering Dr. Tuke, said he was sure that cases which recovered were not instances of true primary dementia, but rather cases of anergic stupor.

Dr. Carswell (Glasgow) discussed the legal aspect of responsibility, pointing out that where the jury had evidence of reasonable doubt as to the state of the prisoner's mind, though there might not be proof that he was insane, it was in their power to reduce the charge from the more serious one to a lesser one.

OXFORD MEDICAL SOCIETY.

At a meeting on May 10th, Mr. R. H. Whitelocke, President, in the chair, Dr. W. T. Brooks showed a case of *Polyarticular chronic arthritis* in a girl aged 16. The elbows and wrists were considerably disorganized. The knees were bent and prevented any attempt at walking, and a double arthrectomy was proposed. Dr. W. Collier showed a woman, aged 29, who had just returned from a prolonged stay at Margate. She left the Radcliffe Infirmary with enormous cervical glands simulating those seen in *Hodgkin's disease*, but found to be tuberculous on the excision of a small gland. A general removal had been inadvisable owing to the number and size of the glands and the high temperature. Her present condition was afebrile and the glands had shrunk to an extent which permitted of the question of operation being taken into account. Dr. W. Duigan, in a paper on *The use of tuberculin in phthisis*, recorded his experience with a number of cases treated by the intensive method. In carefully selected afebrile cases treatment on this plan produced a sense of well-being in the patient subsequent to the injection and a drying up of moist sounds in the lungs. The treatment was much cheaper than sanatorium treatment, and the patient, if at work, suffered no interruption.

ROYAL SOCIETY OF MEDICINE.

Clinical Section.

At a meeting on May 31st, 1912, Sir William Osler, President, in the chair, the following were among the exhibits:—Mr. Rupert Farrant: A case of possible *Acromegaly* in a man aged 21. There was some prominence of the lower jaw and malar bones, and to a less degree of the mastoid processes and external occipital protuberance. The lips and tongue were enlarged, and some pigmentation was present. The femora were bowed outwards, their necks being thickened and bent, and heads enlarged, the articular surfaces extending down on the necks; a skiagram showed expansion of the pituitary fossa. Dr. Frederick Langmead: A woman, aged 55, who was probably suffering from *Coarctation of the aorta*, accompanied by an aneurysm of an intercostal artery. A secondary circulation was visible over the back and left axilla, and over the back pulsation and a loud systolic bruit were noticeable. These were most manifest over an area of dullness in the proximity of the third dorsal vertebra, where a dense circular shadow was visible by radiogram. Mr. W. G. Spencer: A man, aged 36, to illustrate relief following *Bilateral nephrotomy* and drainage in a case of nephritis complicated by suppression of urine and uraemic convulsions. The patient appeared to be suffering from chronic nephritis, and an intercurrent attack of acute nephritis caused congestion and arrest of the kidney secretion. The relief of the congestion by bilateral nephrotomy and drainage was followed by a return of the patient to his previous state. He expressed himself as feeling quite well. Besides the condition of the urine, the only noticeable feature was the rather hard radial artery. Mr. Paul B. Roth: Two cases of *Osteo-periostitis of the tibia*, in children aged 8 years and 10 months, and 7 years respectively. The condition was due to congenital syphilis, a positive Wassermann reaction having been obtained in both cases. Dr. James Galloway: (1) A case of possible myotonia in a girl, aged 14, who exhibited tonic spasm of the muscles, chiefly of the extremities. On voluntary movement, the muscles of the left arm and leg passed into a condition of spasmodic contraction, the resulting contractions relaxing very slowly. The condition had been present for five months. The similarity between the rigidity and that of myotonia was remarked upon, and the question of an intracranial lesion discussed. (2) A case of *Sclerema cutis* in a man aged 54. He had so named the condition because it resembled the cases of sclerema neonatorum which had been described in this country. Dr. G. A. Sutherland: A case of *Hæmorrhagic disease*, possibly *Scurvy*, in a girl aged 7. In August, 1911, during a severe illness with pyrexia, the head of the left femur became dislocated. Skiagrams showed rarefaction of bone, subperiosteal effusion, and fresh bone formation beneath the periosteum at the upper ends of both femora and humeri. Recurrent attacks of purpura and haematuria occurred, and melaena on two occasions. Mitral disease coexisted, and subcutaneous nodules had been seen. Blood examination showed no changes. Dr. Robert Hutchison: A man, aged 46, who had *Fibro-caseous tuberculosis* of the glands in the neck, and caries of the dorsal spine. It was chiefly remarkable for the latency of the caries, which had probably been present for a long time, but was only suspected after radiographic examination. Mr. C. H. Fagge: A case of *Ununited fracture of the ulna* in a boy, aged 11, treated by bridging the gap with a slice sawn from the tibia. It had been followed by firm union. Mr. Duncan C. L. Fitzwilliams: A case of *Multiple arthritis* in a girl aged 15. He regarded it as an infective arthritis, not tuberculous. Drs. H. Batty Shaw and P. J. Edmunds: Four cases of *Muscular dystrophy* in three generations. They served to show that cases in which no hypertrophy occurs survive to old age, and the existence of types of muscular dystrophy which combine the features met with in pseudo-hypertrophic muscular dystrophy, Erb's "shoulder" type, and the "facio-scapular-humeral type." Dr. F. Parkes Weber: A woman aged 28 with *Aneurysm* of the first portion of the aorta. A diastolic shock was present at the apex. Aortic disease was well marked. Wassermann's reaction was positive.

Reviews.

THE CEREBRO-SPINAL FLUID.

M. MESTRÉGAT has by his original investigations and studies in the chemistry of the cerebro-spinal fluid, published in various scientific journals, including the *Comptes rendus de la Soc. Biologique*, made himself especially well qualified to write a comprehensive monograph on the chemistry of the cerebro-spinal fluid in normal and pathological conditions.[1] Since Quincke in 1891 introduced lumbar puncture as a means of treatment for intracranial pressure, the proof of the simple and safe nature of the operation has led up to a number of investigations relating to the cytology, bacteriology, and chemistry of the fluid in many pathological conditions. The examination of the fluid in nervous diseases has become a valuable aid to clinical diagnosis, particularly in deciding between functional and organic disease, and in differentiating the various forms of meningitis.

The author, after a general introduction, describes all the technical methods which have been employed by various authorities in the examination of the cerebro-spinal fluid, concluding with a table giving the principal facts of analysis. This should prove very useful to all those who are interested in the subject, as the methods are clearly described and the value of each indicated in many instances on the grounds of the author's personal experience. He does not profess to give any details respecting cytological examination, which is perhaps to be regretted in so comprehensive a work; consequently the subject is dismissed in a short paragraph.

The first section of the book deals very systematically with the anatomical and physiological relations of the cerebro-spinal fluid. M. Mestrégat considers that the cerebro-spinal fluid is neither a secretion nor a transudation, for its composition and its non-colloidal nature is opposed to this. He considers, however, that it is formed by the choroid plexus, but nevertheless is derived from the blood plasma, not by a secretory process of the cells but by a dialysis pure and simple. It constitutes with the media of the eye and the internal ear a "homogeneous family," as much by its composition of "mineral serum" as by the part it plays as liquid neuro-protector and by its mode of generation which makes it derived from the blood plasma pure and simple. It may, however, be remarked that it does not very materially differ from the tears, which is a secretion. M. Mestrégat asks the questions, Does there exist a true circulation of lymph in the nervous centres, or does the cerebro-spinal fluid constitute the lymph of the centres? He answers these questions by saying that the lymphatic circulation is made by a true lymph, distinct from the cerebro-spinal fluid. The proofs he adduces, either one way or the other, are not, however, entirely convincing.

Chapter II consists of a most valuable summary of the analytic researches of the author relative to the normal cerebro-spinal fluid. The researches were carried out upon a mixed sample of twenty normal fluids removed by lumbar puncture. The results are given in his tables; besides this, there are tables giving the analysis of fresh fluids considered separately. Seeing that so many mistakes have been made by previous investigators through using fluids from pathological conditions, this authoritative work on the composition of the cerebro-spinal fluid should be of especial value.

He has not estimated the gases, but gives the results Mott obtained in his examination of fluids obtained by lumbar puncture of general paralytics. He remarks that the results agree with his estimation of the proportion of bicarbonates. The cholin question is discussed, and it is assumed that there is no reliable proof that cholin exists in the cerebro-spinal fluid. Mott himself has given up the view that there is any reliable evidence to show the existence of cholin in the cerebro-spinal fluid. The platinochloride test was the initial cause of the error; for it is impossible to get rid of the potassium salts present. Even the physiological test of the fall in blood pressure, upon which Mott and Halliburton also relied, has been called in question, for it is doubtful if pure cholin has a hypotensive action. As regards glucose, he estimates that it is a pretty constant quantity (0.534 gram per litre), therefore much less than in serum; there is no glycolytic ferment.

Regarding the existence of cholesterol in the fluid of general paralytics and chronic dements, he says: "For my part, the study of choline and of phosphates has rendered me sceptical of the passage of the products of disintegration of nervous substances into the cerebro-spinal fluid." It is known that there is a great resistance to the passage of poisons and colloidal substances from the blood into the cerebro-spinal fluid; it is also known that poisons introduced into the subarachnoid space have a much more poisonous effect on the nervous centres and can be soon detected in the blood. There is therefore an impermeability of the capillaries in one direction—namely, from the blood to the fluid, but not from the fluid to the circulation. The meningo-encephalitis of sleeping sickness has been thought to be due to the existence of the trypanosomes in the cerebro-spinal fluid; if therefore arsenic, antimony, and other therapeutic agents cannot enter the cerebro-spinal fluid, then when once the subarachnoid space is invaded by the organisms there is no possible means of ridding the body of the parasite and a constant reservoir of fresh infection remains. It appears that only the minutest traces conceivable of arsenic have been found in the cerebro-spinal fluid after maximum intravenous doses of salvarsan. This may explain the fact that atoxyl injections have not proved of much use in the treatment of this disease.

The changes in the fluid in various metabolic diseases—for example, uraemia, diabetes, etc.—are discussed fully. It is rather disappointing to find that the chemistry of the Wassermann-Plaut reaction does not come within the scope of this work, and is only briefly alluded to.

The last half of the work cannot fail to be of great value to all who are interested clinically in the chemical conditions of the cerebro-spinal fluid in disease. The author has taken infinite pains to summarize all that has been written upon the cerebro-spinal fluid in various diseases, nervous and otherwise.

The great aim of the author of this work is to give a reliable account of the chemistry of the normal cerebro-spinal fluid and upon this basis to establish the clinical value of a chemical examination of the fluid in pathological conditions. He is to be congratulated on the admirable, comprehensive, systematic, and lucid manner in which he has dealt with a difficult subject. The work concludes with a very full and accurate bibliographical index and table of contents. It can be recommended as a valuable work of reference to the physiologist, pathologist, neurologist, and clinician.

[1] *De liquide céphalo-rachidien normal et pathologique, valeur clinique de l'examen chimique.* Par W. Mestrégat. Paris: A. Maloin. 1912. (Roy. 8vo, pp. 697. Fr. 12.)

DISORDERS OF THE HEART.

THE commoner disorders of the normal cardiac rhythm have of late years been studied with ever-increasing ingenuity in most of the schools of medicine. No better account of the results so obtained has been published than the comprehensive work by Dr. T. LEWIS, which was reviewed at some length in our columns in December last (BRITISH MEDICAL JOURNAL, December 9th, 1911). It has now been followed by a smaller work,[2] in which the same author has applied the lessons of his previous treatise to the more practical test of clinical observation. The highly elaborate methods of graphic record, while giving information which is capable of accurate interpretation, are not adapted for daily use at the bedside, but the disorders which they have served to demonstrate can be detected in many cases by less elaborate means, now that their causation is better understood. Cardiac irregularity has, until within recent years, been looked upon as a symptom of valvular or myocardial disease, and the actual cause of the irregular action has been left undecided. The modern appreciation of disordered movements never leaves out of sight the mechanism of normal contraction, but seeks to discover the exact seat and cause of the abnormal change which is disturbing the normal sequence of impulses from

[2] *Clinical Disorders of the Heart-Beat: a Handbook for Practitioners and Students.* By Thomas Lewis, M.D., D.Sc., M.R.C.P., Lecturer in Cardiac Pathology, University College Hospital Medical School, Physician to Out-patients, City of London Hospital for Diseases of the Chest, Victoria Park. London: Shaw and Sons. 1912. (Demy 8vo, pp. 116: figs. 48.)

the sino-auricular node to the ventricle. Dr. Lewis has classed the different forms of irregularity under six headings, and, after definition of the exact meaning of the descriptive terms employed, he proceeds to examine each form in detail. Of these the one most frequently met with, he tells us, is auricular fibrillation. This condition is held to be present in about 60 per cent. of failing hearts, and is defined as being due to "a condition in which the normal impulse formation is replaced by stimulus production at multiple auricular foci." The impulses thus arising are transmitted to the ventricle in more or less haphazard sequence, and hence the ventricular contractions become utterly irregular. Heart-block, which has figured so largely in cardiac symptomatology of late years, is shortly defined as due to a delay or absence of response by the ventricular to auricular impulses. It may come as a surprise to many to learn that heart-block is most frequently met with during the period of life between 10 and 35 years. Although commonly attributable to degenerative or other changes of a permanent character in the auriculo-ventricular path, it may also occur in the course of rheumatic, septic, or syphilitic conditions as a temporary disorder. A very slow pulse is not always indicative of serious disturbance of circulation, as the cardio-vascular system possesses remarkable powers of adaptation. In association with certain other symptoms, however, the outlook is grave. Dr. Lewis's observations on prognosis and treatment are interesting and instructive. Sinus arrhythmia, defined as irregularity produced by interference with rhythmic impulses at their seat of discharge, and premature contractions, due to new and isolated impulses formed in the cardiac musculature, are each in turn described and illustrated and their practical bearings discussed. The difficult subject of paroxysmal tachycardia is closely examined, and many points are noted which may be new to those who are not familiar with recent writings on the question. Although introducing no novel method of treatment, the work will afford to the general reader a much clearer conception of the rational lines on which treatment should be founded. No claim to finality is made, and in time to come new discoveries may lead to other views, but Dr. Lewis has done good service in thus placing before the profession at large so clear an indication of the limits to which modern research has carried the possibilities of successful treatment.

Of the large additions to the literature of heart disease which have taken place of recent years, the latest is, perhaps, in point of bulk, the largest of all. Dr. Ernest Barié, of the Laënnec Hospital in Paris, has issued a third edition of his work on diseases of the heart and aorta, in which these subjects are described and discussed to the extent of over eleven hundred closely printed pages.[3] To attempt an analysis of such a comprehensive book would be impossible within the limits of a review, and it must suffice to say that it has been to a great extent recast, and brought, so far as we have been able to observe, thoroughly up to the limits of modern observation. The elaboration of instrumental means of observing the action of the heart in health and disease has opened up many avenues for fresh study, but for the physician at the bedside there is still need for the most careful consideration of the semeiology of cardiac disorder and a clear understanding of the causes of functional disturbance. This latter point is emphasized in the present work, and the vital importance of it is insisted upon in a preface, written for a previous edition in 1900 by Professor C. Potain, showing the evil results that may accrue from a careless interpretation of temporary disorder. In some of the earlier chapters the actual information to be gained by the use of radioscopy and electro-cardiagraphy is shown with commendable simplicity and brevity, but the writer devotes much more space to the consideration of time-honoured methods of investigation by hand, eye, and ear. The whole work is essentially intended for the practitioner rather than for the purely scientific student of cardiology, and it contains a vast amount of information having a practical bearing which will be found most useful for reference. An important point, by which such reference is facilitated, is the addition to each section of a summarized account of its contents, whereby any special subject may be promptly found without prolonged search through irrelevant matter. Every part of the work has been revised, and the author has sought to embody all that is really of value in connexion with the subject. It is satisfactory to note that the work of English physicians and physiologists is fully recognized and frequently quoted. We can cordially commend this latest edition of a book which has already received the hearty recognition of our medical brethren on the other side of the Channel.

[3] *Traité pratique des maladies du cœur et de l'aorte.* By Ernest Barié, Physician to the Laënnec Hospital, Paris. With introduction by Professor Potain. Third edition, entirely recast, with 82 figures. Paris: Vigot Frères. 1912. (Sup. roy. 8vo, pp. 1136. Fr.20.)

CLINICAL SURGERY.

The second edition of Mr. C. B. Lockwood's *Clinical Lectures and Addresses on Surgery* appears with the new title *Clinical Surgery*,[4] which, though apparently regarded by the author as merely an abbreviation, is perhaps to some extent a misnomer, since the volume still consists of a series of lectures on various subjects. A purchaser who might be disappointed to find the book not a general textbook on clinical surgery need not be unduly sympathized with, for he will find in it much more than the textbook can give him. He will find everyday difficulties freely and candidly discussed; he will find philosophic disquisitions on the nature of his art; he will find innumerable practical suggestions which appear as realistically as if he were standing at the bedside. The additional lectures which fill the hundred new pages are on clinical pathology, salivary calculi, fractures of patella, hip and shoulder amputations, and by no means the least important, the wind after abdominal operations. The last mentioned unconventional title is the heading of a lecture which will appeal to all surgeons and practitioners. It illustrates admirably the author's method. He introduces the lecture by statement of the meaning of flatus and its passage after abdominal operations. Then, by some culture tubes, he shows how the colon bacillus is a gas-producing organism; next he discusses the culture media formed by foodstuffs within the intestine, and that leads to a description of how to prevent gas formation, the conditions and operations most favourable to its appearance; and, lastly, the treatment in detail, both very soon after operation and later. The author's style is well known to be forcible and direct. These qualities are found in this volume, though perhaps some careful condensation here and there would increase the directness of the appeal to the reader. This second edition we regard as well worthy of the reputation of its author, and we hope in another four years some more material will have accumulated, and will be added to another new edition.

Dr. Mumford's volume, *One Hundred Surgical Problems*,[5] is one of a number forming the Case History Series. The author thinks that the method of teaching by case illustration was in danger of being forgotten owing to the development of the statistical analytical practice of last century. We will not stop to quarrel with this opinion, though we believe it to be erroneous. Each of Dr. Mumford's hundred surgical cases is "either a problem or an illustration of important features in diagnosis and treatment. Many of the cases are homely and commonplace." This is true, but homeliness and commonplaceness do not necessarily detract from the value of a surgical lesson, nor make less difficult of solution many surgical problems. In many of the little surgical stories—and very well told stories they mostly are—the problem appears to be insufficiently stated, operations appear to be performed without too severe an effort to establish a diagnosis, and in many instances there is an appearance of neglect of pathology and bacteriology. Dr. Mumford's method of teaching is undoubtedly sound on the whole; one outstanding feature is that he never wearies of inculcating the duty of the medical man to study the patient as a sick person, and not merely concern himself with the kidney or stomach, or any other little bit of the sick person. The problems are stated in racy fashion

[4] *Clinical Surgery.* By C. B. Lockwood, Surgeon to St. Bartholomew's Hospital. London: Henry Frowde, and Hodder and Stoughton. 1911. (Post 8vo, pp. 397 and 4 plates. 5s. net.)

[5] *One Hundred Surgical Problems: The Experiences of Daily Practice Dissected and Explained.* By James G. Mumford, M.D., Visiting Surgeon to the Massachussets General Hospital, Instructor in Surgery, Harvard Medical School, etc. Boston: W. M. Leonard. 1911. (Db. post 8vo, pp. 354. 3 dols.)

with interesting comments on the patients' habits and personal history, but there is a good deal of rather loose phraseology. Examples of this may be found on page 85, where "eye grounds" is inelegantly used for ocular fundi, and where the patient is described as suffering from "marked congestion of the head"; and in Case xxx, where the patient had cut out of his skull "an area of bone about as large as a good-sized butter plate." The book is one which practitioners of any standing and any age will enjoy reading, not as serious study but as surgery of the magazine short story type.

A publication of a somewhat novel sort is *The Surgical Clinics of Dr. J. B. Murphy*.[6] These clinics are conducted by Dr. MURPHY twice a week at the Mercy Hospital, Chicago, and his consent to the attendance thereat of a reporter has been obtained by the publishers of this periodical. The immediate result is the present volume, which contains a verbatim account of this distinguished surgeon's observations on some of the occasions in question. A corresponding volume is to appear every two months. In the present issue nineteen subjects, ranging from carcinoma of the breast to the diagnosis of a case of pleurisy, are covered. One gathers that Dr. Murphy's method is to set before his audience his patient, and a brief clinical history of the facts relating to him up to date, and then discuss both in general terms. The conclusion is also suggested that he has decided views on other than surgical questions. The verbatim reporting system is carried out so completely as in some cases to cover the questions and answers exchanged in conversation between Dr. Murphy and his house-surgeon. Further realism is secured in many cases by excellent photographs.

A MATERIALIST CRITIC OF BERGSON.

IT was only to be expected that dissentient voices should make themselves heard almost before the chorus of approbation with which Professor Bergson's recent lectures on the soul and the English version of *L'Évolution Créatrice* were greeted by the press had died away. Mr. ELLIOT, whose book on *Modern Science and the Illusions of Professor Bergson*,[7] as well as the preface by Sir Ray Lankester, are cases in point, is one of those to whom the display of any serious interest in ontological problems is a provocative. In the March and April numbers of the *National Review* the Bergsonian criticism of Darwin's theory of natural selection is roughly but effectively handled by Mr. George Hookham. And Mr. Balfour's article on "Creative Evolution and Philosophic Doubt" in the *Hibbert Journal* for October, 1911—the same number which contains Professor Bergson's Huxley Lecture on "Life and Consciousness"—although a model of courtesy and generous appreciation, reveals on the part of its author grave misgivings as to the tenability of certain factors of the doctrine discussed.

It would not be surprising if Mr. Balfour's moderate criticism were to prove more effective in disturbing the confidence of the elect than the vigorous onslaught of Mr. Elliot and those of his way of thinking. Purely destructive criticism, by the very fact of its obvious lack of sympathy and of the insight inseparable therefrom, is apt to miss its mark. Mr. Elliot is a staunch advocate of the mechanistic theory, convinced not only that the mind of man can never solve the problem of metaphysic, but that it cannot even say whether there is a problem to be solved. In holding such convictions he is quite within his rights; the only question is whether they are not presumptive evidence of his disqualification for the task he has here undertaken. One would not greatly value the verdict of a colour-blind person upon the art of Titian. Our confidence in Mr. Elliot's claims is not increased by the fact that his chapter on "The Progress of Philosophy" is avowedly based largely on Lewes's *History of Philosophy*—surely a very inadequate substitute for first-hand study of the writings of those thinkers whose lifework he so summarily dismisses as constructively worthless. His own adherence to the crudest form of nineteenth century materialism seems based on a misconception of the true connotation of such terms as "force," "cause," "natural law," etc. For, as Professor Karl Pearson—no friend of philosophy—has clearly shown, the hypostatization of force and the consequent foisting of the notion of necessity into the purely formal nexus of scientific cause and effect are proceedings every whit as metaphysical as any that their perpetrators condemn. "Force" and "cause" are, for science, merely abstract conceptions employed in the endeavour to formulate the routine of experience; their use commits us to no theory as to how the observed sequence of phenomena is brought about.

At present science is far from being able to summarize in the terms of abstract mechanism the simplest function of the lowliest organism. Suppose it were otherwise; suppose even that the highest and most complex activities of a human being could be so described and formulated, we should be just as far from having demonstrated the truth of determinism as Mr. Elliot understands and uses the word. We should have explained the "how," but not the "why," of the processes concerned. We strongly advise him to read, mark, learn, and inwardly digest *The Grammar of Science*. If, as we gather, it be his aim to banish from his mind every vestige of unwarranted hypothesis and to entrench himself within an impregnably scientific position, he must be a great deal more agnostic and a great deal less unconsciously metaphysical than he is at present. The territory annexed and cultivated by science is as yet a small proportion of the whole vast domain of legitimate human interests. There is room in the intellectual arena for a few metaphysicians, and it would not be impossible to adduce evidence that science is under obligations to philosophy for more substantial gains than the destruction of certain superstitions. After all, the seeming impersonality of science is an illusion, and the answers we obtain from Nature are in the long run conditioned by the questions we put. Who can say to what extent Darwin may have been unconsciously and indirectly indebted to Hegel?

We agree with Mr. Elliot as to the inadequacy of Professor Bergson's attack on Darwin's position. Moreover, the moulding effect of natural selection would not be ruled out even if some quasi-purposive factor could be identified in variation.

NOTES ON BOOKS.

DR. WILLIAM ODELL has published a pamphlet entitled *Further Evidence of the Value of the Treatment of Pulmonary Tuberculosis with Ichthyol*,[8] a paper he read at the International Congress on Tuberculosis in Rome last April. In this paper he adds reports of 66 additional patients under his care at the Western Hospital, Torquay, since he read his paper before the National Tuberculosis Conference in London on February 17th, 1909, when the results of 123 were related. The ages of the new patients range from 15 to 38, the majority being between 18 and 28, the proportion of the sexes being about equal. The average period of residence was about three months. In only 16 cases was there loss of weight; 4 of these were classed as unsuitable, and in 1, who was stout and flabby, the loss was attended by improvement in health. The increase in the weight of the other patients was a marked feature, and was accompanied by a bright and cheerful demeanour, which Dr. Odell finds to be one of the invariable effects of treatment by ichthyol. Taking the whole 189 patients he has treated with ichthyol at the Western Hospital since 1901, Dr. Odell summarizes the results as follows: In 43 the disease was arrested, 83 were very much improved, 18 much improved, 27 improved, 6 were stationary, 11 were unsuitable, and 1 died. He begins with the dose of 7½ minims in half a wineglassful of water three times a day after food, and gradually increases to 10 drops thrice daily. In addition he has also given malt and oil. By comparing recent results with those obtained before treatment with ichthyol was adopted, he has no hesitation in saying that their improvement has been due to ichthyol. In some cases in private practice he uses tablets of iron and ichthyol made by Messrs. Cordes Hermanni and Co., and has seen very good results from this form of treatment, especially in cases of enlarged cervical glands.

The writing of verse has always been a favourite relaxation amongst men whose minds are constantly on the stretch; and many doctors seek refuge from the

[6] *The Surgical Clinics of Dr. John B. Murphy* at Mercy Hospital, Chicago. Vol. i, No. 1. Philadelphia and London: W. B. Saunders Company. 1912. (Med. 8vo, pp. 133; figs. 8. 35s. a year (six vols.).)

[7] *Modern Science and the Illusions of Professor Bergson*. By Hugh S. R. Elliot. With a preface by Sir Ray Lankester, K.C.B., F.R.S. London: Longmans, Green and Co. 1912. (Post 8vo, pp. xix, 257. 5s. net.)

[8] Printed at the *Directory* Office, Torquay, 1912.

stress and strain of a busy practice by weaving their thoughts and fancies into rhyme. Dr. AUGUSTUS COOK, who is already known as the author of several small volumes of poetry, has recently published another, entitled *Psyche, and Other Poems*,[9] in which his easy harmonious style may be enjoyed at its best. Dr. Cook writes with admirable simplicity and restraint; whilst his occasional gentle irony and sudden gleams of quiet humour add a certain piquancy to the sweetness of his verse. Probably the stanzas which will find most favour amongst the medical portion of his readers are those ironically entitled "Gratitude," in which the curious change which takes place in the patient's feelings towards his doctor before and after recovery are cleverly indicated in a few lines. The book, which is prettily bound, is illustrated with two most artistically reproduced photographs of Canova's fine statue of "Cupid and Psyche" and Gérard's painting of the same subject, both well known to English visitors at the Louvre.

The title, *Engineering Work in Public Buildings*,[10] would be improved by the substitution of the word "institutions" for "buildings," seeing that Mr. OWEN ALLSOP confines himself to the light, heat, and water-supply of hospitals, asylums, hotels, and such places as are inhabited by a community. We cannot enter into the purely engineering questions which make up the staple of his treatise, but occasionally he lifts us out of mechanical intricacies unto the broad levels of hygiene and public health, and here his outlook is refreshingly wholesome. In the matter of ventilation, for example, he accepts the open-air ideal as the standard to be conserved as far as possible, although, of course, in large and special institutions local conditions have to be studied, and thus a system of forced ventilation by fans has its uses. He also advocates, in addition to hot-water or steam-radiator heating, a generous provision of open fires or cheerful stoves, particularly in hospitals, where their tonic value is not unimportant. We are left with the feeling that the science of warming and ventilating an apartment or ward is still empirical, and that the application of common-sense is required, rather than ready-made formulae. The engineer must exercise his judgement according to the case; to quote the author, "he must clamber up the futtock shrouds, not sidle through the lubber's hole."

[9] *Psyche, and Other Poems.* By Augustus H. Cook, M.B.Lond. London: G. Bell and Sons, Ltd. 1912. (Cr. 8vo, pp. 116. 2s. 6d. net.)
[10] *Engineering Work in Public Buildings.* By R. Owen Allsop. London: E. and F. Spon, Ltd. 1912. (Demy 4to, pp. 168, 75 illustrations. 12s. 6d. net.)

MEDICAL AND SURGICAL APPLIANCES.

Vaginal Clamp and Parametrium Forceps.

DR. FREDERICK J. MCCANN, M.D.Edin., F.R.C.S.Eng., Surgeon to In-patients, Samaritan Free Hospital for Women, London, N.W., has designed a vaginal clamp and parametrium forceps for use in the abdominal radical operation for uterine cancer. Dr. McCann writes: *Vaginal Clamp.*—This clamp has been made for me by Messrs. Krohne and Sesemann. The transverse blades are of sufficient breadth to enclose the vaginal walls; each is grooved in the centre and possesses a serrated margin. The blades are made like the French broad ligament forceps to enable them to grasp tightly a considerable amount of tissue. The handles are set at an angle to the transverse blades which allows the instrument to be applied from the side with greater ease. (This is not sufficiently indicated in the figure (1).) The advantages which may be claimed for this instrument are:

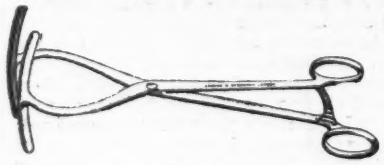


Fig. 1.

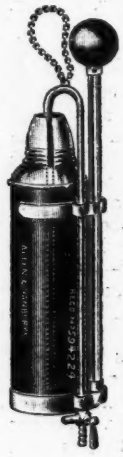
Fig. 2.

(1) It is easy to apply.
(2) It can be used where there is considerable enlargement of the body of the uterus as it is applied from one side.
(3) It holds firmly.
(4) It does not interfere with the working space at each side of the vagina as do the Winternitz clamps used by Wertheim and others.

After an extensive trial of this instrument I can recommend it with confidence to those who practise the abdominal radical operation. *Parametrium Forceps.*—As the parametrium forceps used for this operation are so large and clumsy I have had made for me lighter forceps on the Kocher principle. They possess the toothed extremity, and the blades are so curved that a series can be applied close to the pelvic wall on each side. This curve also facilitates the subsequent application of ligatures. The hooked extremity and the serrated blades enable a firmer hold to be obtained (Fig. 2). These forceps will be found easy to apply and to manipulate, and do not occupy too much room in the pelvis.

Thermos Saline Infusion Apparatus.

Mr. H. S. SOUTTAR, F.R.C.S. (London), writes: This apparatus, which has been constructed to my design by Messrs. Allen and Hanburys, Ltd., consists of a vacuum flask, a siphon, a water gauge, and a two-way tap. The vacuum flask is of the ordinary thermos pattern, and holds either one or two pints. The siphon has two limbs, one a rubber tube reaching to the bottom of the flask, the other of plated copper, reaching down outside to a point below the flask and terminating in the tap. Parallel with the siphon tube and connected with its lower end above the tap is a water-gauge of glass tube protected by a metal guard; it carries a rubber ball used for filling the siphon. The flask stands upright in a small tray and may easily be detached. It is closed by a cap which may be removed for refilling without disturbing the siphon. The method of use is as follows: The flask is filled with hot saline, the siphon, etc., being already attached. The tap is closed. The rubber ball is compressed, a small hole below it is closed by the finger, and the ball is released. A rush of fluid follows round the siphon and up the gauge, and the apparatus is ready for use. The flask is hung by means of the chain from any convenient support above the patient's bed, and the needles for subcutaneous infusion or the rectal tube are connected by rubber tube with a nozzle below the tap. The rate of flow is regulated by the tap and observed on the gauge. Should it be desired to discontinue the flow for a short time, the tap is closed and before restarting the siphon is emptied of its now cold contents by the side nozzle on the two-way tap. The temperature at which the saline should be poured into the flask will, of course, depend upon the rate of flow, the length of tube exposed, and the temperature of delivery required. It is found that if the saline in the flask is at 125° F., the rate of flow one pint an hour, and one foot of rubber tube is exposed, the temperature of delivery is about 105° F. in a room at 60° F. At a rate of half a pint an hour, the initial temperature should be 130° F. These figures are only approximate, but are sufficiently accurate for all practical purposes. The temperature of the saline in the flask is almost constant, falling about 1° F. an hour. If, then, the flow remains constant the temperature of delivery will be unaltered so long as the apparatus is not disturbed. For subcutaneous infusion it is essential that the apparatus should be sterilized by filling the flask with boiling water and running this out through the tubes in the ordinary way. The needles should be boiled separately. The advantages of this apparatus are its extreme simplicity, both in construction and action, its reliability, and the fact that it can be readily sterilized. The flask being upright there is no risk of leakage and no danger of breaking the glass lining by inserting a stopper. The whole apparatus can be in action within five minutes of the moment when it is requested, and it requires no further attention. A very remarkable feature is the enormous quantity of saline absorbed by this method. Owing to its constant high temperature it is taken up at once into the vessels, there is rarely any swelling of the legs or return by rectum, shock is successfully combated, and renal excretion is increased. At the London Hospital we constantly give five pints subcutaneously by this method in as many hours and occasionally twice that amount, with no result whatever other than a very remarkable improvement in the patient's condition. In critical cases we use temperatures higher than those mentioned, with striking success. Any excess of fluid given is at once balanced by its rapid excretion, in marked contrast to the water-logged subcutaneous tissues so often resulting in the older methods where the temperature of delivery too often was merely that of the atmosphere.



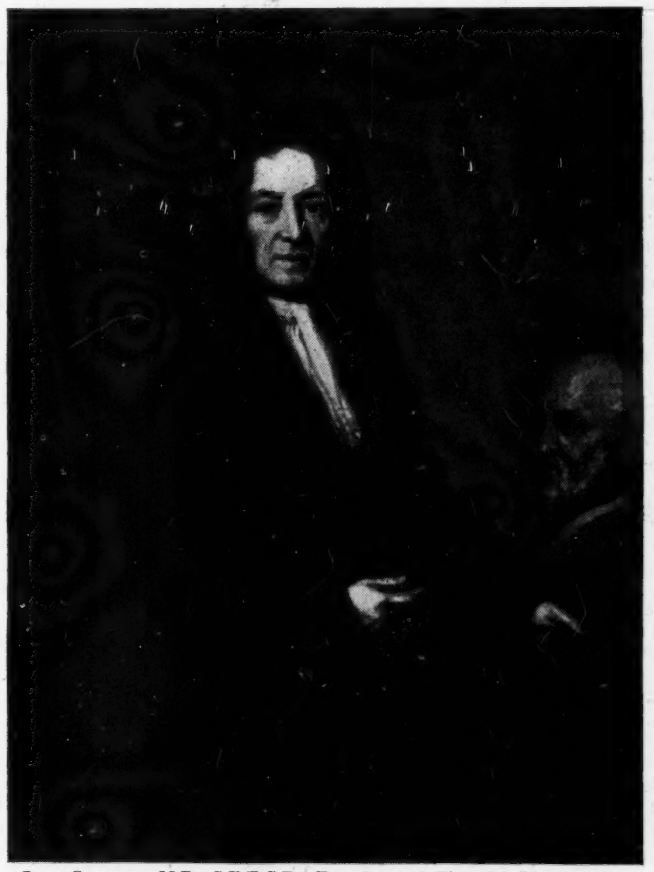
DUBLIN UNIVERSITY MEDICAL COLLEGE.

BICENTENARY OF FOUNDATION.

The Celebration.

LAST year the Medical School of Trinity College, Dublin, completed the second century of its existence. The bicentenary is to be celebrated this year with appropriate rites and ceremonies on the last three days of "Trinity Week"—on July 4th, 5th, and 6th. On the afternoon of the first of these days there will be a reception of guests in the College Library by the Chancellor, Lord Iveagh, and the Provost; this will be followed by a graduates' dinner in the evening. On the following morning the Provost will unveil a memorial to Dr. John Stearne, founder of the Irish College of Physicians, whose name is intimately associated with Trinity College, and an address will be delivered by Professor Mahaffy. Afterwards the Chancellor and Provost will formally receive congratulatory addresses from other universities and colleges in the Examination Hall. On the morning of July 6th an official visit will be paid to the medical school, when a memorial bronze of the late Dr. D. J. Cunningham, professor of anatomy, will be unveiled by the Regius Professor of Physiology, Dr. James Little. Afterwards the company will go in procession to the Royal College of Physicians, where they will be received by the President and Fellows.

Among the guests who are expected to be present are the Presidents of the Royal Colleges of Physicians of London and Edinburgh, and the President of the Faculty of Physicians and Surgeons of Glasgow, Sir William Osler, Sir Clifford Allbutt, Professor Pavlov and delegates from most of the universities of Europe, and many of those of America and the British Colonies.



JOHN STEARNE, M.D., S.F.T.C.D., Founder and First President of the College of Physicians.

HISTORY OF THE SCHOOL.

A short account of the history of this famous school will doubtless, in the circumstances, be welcome to many of our readers.

Older Universities of Dublin.

Trinity College was founded by Queen Elizabeth, but centuries before her day several abortive attempts had been made to establish a university in Dublin. As far back as the eighth century Ireland was famed throughout Europe for its schools. To Irish scholars has been ascribed the foundation of Paris and Pavia, and through Scotus Erigena, of Oxford. The ancient homes of Irish learning were laid waste by plundering Danes, and later by invading Anglo-Normans. Early in the fourteenth century an effort was made to rekindle the extinguished light of knowledge, and the first University of Dublin was founded by a Bull of Pope Clement V, in 1311. He established a *studium generale* in every science and lawful faculty, and enacted "that such as might be thought worthy to be associated with the honour of doctors in any of the said faculties might obtain the licence of any of the said schools for that end." This Bull would seem to have remained a dead letter, for in 1320 Pope John XXII confirmed his predecessor's Bull and the statues drawn up for the earlier foundation. But even then the university was little more than a name, and soon all trace of it was lost, as is shown by the fact that in 1475 the Dominicans Mendicant Friars obtained from Pope Sixtus the Fourth a Bull decreeing once again the foundation of a university in Dublin. The time was not yet ripe, however, for the birth of a viable university. But about the middle of the sixteenth century the scheme, which the leading citizens of Dublin had long had much at heart, began to assume concrete shape, and in 1590 a petition was presented by the Mayor and Corporation to the English Privy Council.

Foundation of Trinity College.

In response to that petition, a charter was granted for a college that should be "the mother of an university for the better education, training and instruction of scholars and students." The lands and buildings of the Augustinian Priory of All Hallows, situated outside the city walls, which had become the property of the Corporation on the dissolution of the monasteries by Henry VIII, were chosen as a site, and an appeal for help was issued to all the Irish baronies. In this way funds to the amount of £2,000, equal to about £16,000 at the present day, were collected. The foundation stone of the College, *Sacrosanctae et individuae Trinitatis juxta Dublin*, was laid by the Mayor on March 16th, 1591, and in January, 1593, the College was opened for the admission of students. Born in troublous times, it had in its early years a fierce struggle for existence.

Slow rises worth by poverty depress.

Queen Elizabeth helped it with a fresh endowment of £200 a year in 1598, and James I endowed the College with land in Ulster, and settled upon it a pension of £400 a year. Its growing prosperity is shown by the fact that, whereas in 1596 the total receipts of the College were under £300, in 1616 they were something over £1,000. A description of ceremonies accompanying the conferment of degrees in the seventeenth century, quoted in Professor W. Macneile Dixon's *Trinity College, Dublin*, makes no mention of graduates in medicine. The Register for 1598 refers to a *Concordatum* for £40 a year granted by Government to the university for a "Physitian's pay"; this is generally understood to be a provision for the chair of physic, but Professor Dixon thinks it not impossible that the grant may have been made in return for medical services to the troops stationed in the city. By Bedell's statutes (1628), he says, it was ordered that one of the Fellows should be professor of medicine, and should deliver one lecture every term. From a passage in a letter from Bedell to Archbishop Ussher it may be inferred that medicine had practically no part in the studies of Trinity College in its early days. He says:

> I suppose it hath been an error all this time to neglect the faculties of law and physic and attend only to the ordering of one poor College of Divines.

Before 1616 only one degree in medicine is recorded to have been conferred by the College.

Trinity Hall.

In 1617 a house called "Trinity Hall" was opened which was intended to serve as a place of residence and

tutorial instruction for students. But it does not seem to have been much used for the purpose, and in 1640 the buildings had fallen into decay. Soon afterwards it was occupied by John Stearne, one of the Fellows, who got leave to repair and use it as a building for the city physicians.

Royal College of Physicians in Ireland.

This was the beginning of the Royal College of Physicians in Ireland. A letter of Bedell to Archbishop Ussher, written in 1628, shows that there had been an intention to found such a college in Dublin. He says:

> At my being in Dublin there came to me one Dr. de Lanne, a physician bred in Immanuel College, Cambridge, who in speech with me discovered a purpose to procure a patent like to that which the College of Physicians hath in London.

Here it may not be out of place to give a short account of the celebrated man who played so prominent a part in the evolution of the medical profession in Ireland. John Stearne was born in 1624 in the palace of Ardbraccan, the episcopal palace of his grandfather, James Ussher, then Bishop of Meath. He entered Trinity College in 1639, but on the outbreak of the Irish rebellion he took refuge in England. In 1643 he went to Cambridge, where he studied medicine in Sidney Sussex College; after remaining about seven years at Cambridge he spent some time at Oxford. He returned to Dublin in 1651, and in 1656 was appointed the first lecturer in Hebrew. He received the degree of M.D. in 1658, and that of LL.D. in 1660. In the same year he became professor of law. While holding these chairs he practised as a physician in Dublin. In 1662 he was appointed professor of medicine in the university. In 1667 the College of Physicians in Dublin received a charter, and Stearne became its first President. This remarkable man died in 1669 in his forty-fifth year, having compressed into a "crowded hour of glorious life" an enormous amount and variety of work. He was buried in the chapel of Trinity College, and is described in the inscription on his tomb as "Philosophus, Medicus, Summusque Theologus."

The arrangement made with Stearne was:

> That the College should have the nomination of the President of the College of Physicians, and that the President and Fellows of that College should give their professional services without fees to the Provost and Senior Fellows of Trinity College and their successors whenever they should require them to attend them during illness.

This College had the right of granting licences, and no one could practise physic in the city or within a radius of seven miles without its permission. It appears that Trinity Hall was also to be used by medical students of the university, but there is no record of any being in residence there at the time of Stearne's death, and his project of a medical college or hall came to nought.

There seem to have been few facilities for the study of medicine in Dublin in the reign of William III. Since the time of Charles I there was always one of the Fellows who was elected Medicus, and who was exempted from taking orders and bound to study physic. The majority of medical fellows, however, do not seem to have taken a medical degree, and they were in no real sense engaged in teaching medicine in the College.

Beginning of the Medical School.

The medical school is of considerably later origin than the university. In the eighteenth century it was felt that there was urgent need of organized instruction in medicine, and accordingly in 1710 the Board of Trinity College proceeded to erect medical school buildings, including a laboratory and anatomical theatre. The school, which was on a very humble scale, was formally opened on August 16th, 1911. At the same time an agreement was made with the College of Physicians, and at the desire of that body it was ordered that

> Besides the usual Acts required by the University regulations every candidate bachelor of physic be examined in all parts of anatomy relating to the *Œconomia Animalis* and in all parts of botany, chemistry, and pharmacy, and that every candidate doctor in physic be examined as to the aforesaid subjects and likewise in the explanation of Hippocrates' *Aphorisms* and in the theory and cure of external and internal diseases.

In 1722 it was ordered by the Board of Trinity College:

> That no person be admitted to take a degree in physic or law unless he first commence as Bachelor of Arts.

This ordinance gave rise some years later to a dispute between the university and the College of Physicians. Fielding Ould, a well-known obstetrician (afterwards knighted, to the amusement of his fellow citizens), who had been a teacher in the medical school, was anxious to get a medical degree. But there was a difficulty in the way: he had no degree in arts. Trinity College tried to make the way smooth by complying with the letter of the law, and created him a Bachelor of Arts. The College of Physicians, however, would not sanction this easy-going procedure. When asked to examine Ould for his medical degree, it refused to do so on the ground that he was a "person who has no academical education and whom you [to wit Trinity College] know to be disqualified by his occupation for a licence to practise in our profession." This was in 1759. The university cut the Gordian knot after the manner of Alexander. It severed its connexion with the College of Physicians, appointed its own examiners in medicine, and admitted Ould to the degree of M.D. in 1761. It must be remembered that at this time the man-midwife was looked upon with contempt by physicians not only in Ireland, but in England.

The breach between the two colleges was not healed for some years. There is no record of fresh arrangements between them till June, 1789, when the following entry appears in the register of the College of Physicians:

> The President having informed the College that Mr. Richard Butler, A.B., entitled by his standing to a degree in medicine in Trinity College, had applied to him for an examination for a licence to practise Physic in this kingdom, it was ordered that the following resolution, made in consequence of the above requisition, be communicated to Mr. Butler:—Resolved: That the College of Physicians cannot agreeable to their rules examine Mr. Butler as he had not produced an authentic proof of having obtained a Medical Degree in any University. But as he is a Student in the College of Dublin and has there obtained a degree in Arts the College of Physicians will be ready to admit him to a licence previous to his taking a degree in medicine when he shall bring them a *Liceat ad examinandum* from Trinity College, and so soon as the Medical Degree shall be granted he will of course obtain a licence.

Although Trinity College had a medical school, its condition could scarcely be called flourishing. Professor Macneile Dixon says that, "judging from the records no medical degrees were granted between 1724 and 1740, and from the latter year to 1773 the average hardly works out as high as 1 per annum." It was not till 1786 that the medical school was established by an Act of the Irish Parliament, which united the College of Physicians with Trinity College in the joint management of the instruction given in the school. Five of the teachers were to be appointed by the Provost and Senior Fellows, and four, called King's Professors, by the College of Physicians. This statute further required that all attending medical lectures, whether students of Trinity College or extern students in medicine, should be matriculated by the senior lecturer.

Students and Graduation.

For the first fifteen years these matriculations averaged only 4.7 in each year. There was a gradual increase until, in the period 1809–1813 inclusive, the average reached 41.4 each year. From 1814 to 1824 they rose to an average of 66.5. In the next five years they increased to 90.8 annually. In the years from 1831 to 1835 the average fell to 63, and in the following two years the number barely exceeded 28 each year.* The great increase in the period between 1814 and 1835 is attributed to the teaching of the University Professor of Anatomy and Chirurgery, James Macartney. He was a native of the county of Armagh and studied partly in Dublin, but mostly in London. He was not a graduate of Dublin, nor does he appear to have ever been a student in arts. In 1800 he was admitted a member of the London College of Surgeons, and shortly afterwards began to lecture on anatomy and physiology in St. Bartholomew's. He died in 1842, aged 73. Macartney was a very great teacher, and when he ceased to hold the professorship the number of students in the medical school fell to what it had been before his appointment.

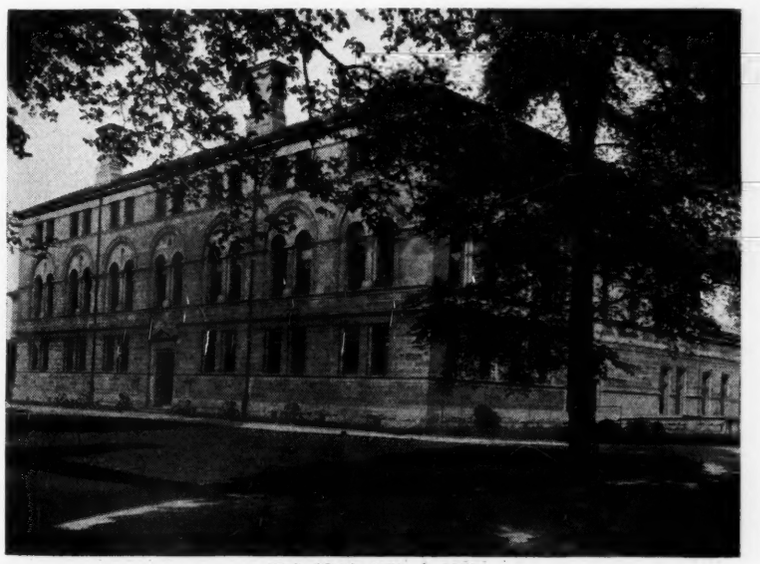
A curious sidelight on the state of medical education in the early part of the nineteenth century is shed in a lecture delivered in 1837 by Lendrick, then professor of the practice of physic. He attributed to Provost Bartholomew Lloyd the improvements which even at that time

* *The Book of Trinity College, Dublin.* 1591–1891. Belfast: Marcus Ward and Co., Limited, Royal Ulster Works; London and New York. Dublin: Hodges, Figgis, and Co., Limited. 1892.

were beginning to be effected in the medical education of the members of the College. He said:

The candidate for a medical degree no longer finishes his medical education in a single year, nor is he compelled to complete a septennial period of (perhaps) idleness before being permitted to practise his profession.

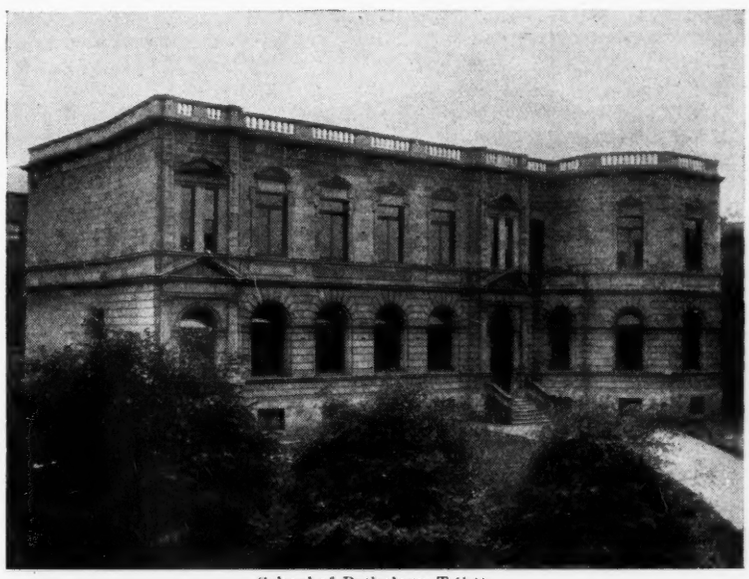
Owing to various causes the number of students remained at a low level till 1864, when Dr. E. H. Bennett, Professor of Surgery, was appointed University Anatomist. The average number of entrances then rose to nearly sixty-four, and from that time steadily increased. The number of graduates also increased. In the period 1832–1842 the average number of degrees of Bachelor of Medicine annually conferred by the university was 18. In the next decade this fell to 11.7. The number rapidly increased with the improvement in education, and in the decade 1872–1881 the average was 39, and in the following ten years 43.6.



Main Medical Block, 1887.

In the early part of the century the College for a short time granted diplomas in medicine to matriculated students who were not students in arts, but who attended the same lectures and passed the same examinations as the bachelorship in medicine. This system prevailed till 1822, when the board received a letter from the London College of Physicians stating that that College did not regard such a diploma as sufficient to warrant it in granting an examination for a licence to practise physic in England. The issue of these diplomas was then discontinued. For a short time the M.D. was granted to students who had completed two years' study in arts, but this was found to be so unsatisfactory that the university decided that no one should be admitted to a degree in medicine or surgery who had not previously graduated B.A. Stubbs says:*

As to the method of conducting examinations for degrees in medicine, we gather some curious information from a letter which the College of Physicians sent to the Provost and Senior Fellows in October, 1814, in which they informed the Board that they had ordered the King's professor not to be present at any examination for medical degrees in the University in which any question may be put or answer received in the English language. The registrar was directed to write to the Regius Professor of Physic (Dr. Hill) to inquire whether these examinations were conducted in Latin. In reply, Dr. Hill assured the Board that he would not under any circumstances examine in English. It may be conjectured that the newly elected professor of anatomy (Mr. Macartney), who was not a University man, broke through the old rule as to the language in which he examined.



School of Pathology, T.C.D.

Institution of Surgical Degrees.

During the first half of the nineteenth century the university conferred degrees in medicine only. The Irish College of Surgeons, towards the end of that period, declined to recognize the lectures delivered in the medical school of Trinity College as sufficient for a surgical diploma. Consequently the university was in 1851 obliged to institute for its medical graduates a diploma or licence in surgery. This was done in accordance with legal advice under the clause of the charter which gave authority to grant degrees *in omnibus artibus et facultatibus*. This was followed in 1858 by the institution of the degree of Master in Surgery, and in 1872 the degree of Bachelor in Surgery was created, and placed on the same basis as that of Bachelor of Medicine. For admission to either of these degrees the candidate must have previously graduated in arts, and must have spent four years in the study of medicine and surgery. Degrees are now also given in obstetric art. The University of Dublin was the first in modern times to institute degrees in surgery, and its example has since been followed by other universities in England, Ireland, and Scotland. Stubbs says:†

The change of opinion in the universities with respect to the status of the profession of surgery is well illustrated by a correspondence, which has been preserved in the College Register, between the University of Cambridge and the authorities of Trinity College, Dublin. On June 30th, 1804, a letter was received from the Vice-Chancellor of Cambridge in which it was stated that that university had declined to consider any student who had subsequently to his admission practised any trade or profession whatsoever as qualified for a degree, and consequently had refused this to Frederick Thackeray, who, since the time of his admission as an undergraduate, had been constantly engaged in the practice of surgery. The Provost and Senior Fellows, in reply, informed the Vice-Chancellor of Cambridge that, after consideration of his letter, they had agreed to adopt the same regulations.

New Buildings.

The growth of the school made the provision of new buildings necessary, and in 1825 a new anatomy and chemical lecture theatre was erected. These buildings

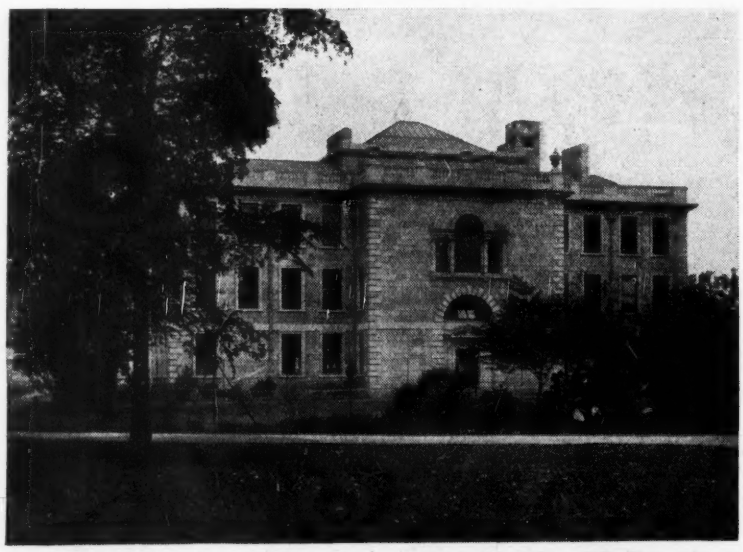
* *The Book of Trinity College, Dublin.*

† *The Book of Trinity College, Dublin.*

remained in use for fifty years, when the great increase in the number of students and the development of science made further accommodation imperative. A new chemical laboratory and dissecting-room were erected, and a histological laboratory and physiological lecture-room were added.

Further Extensions.

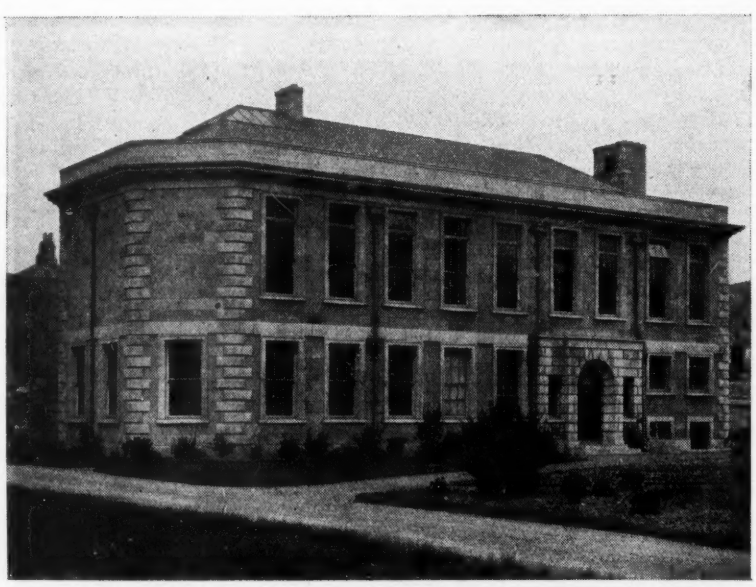
In 1884 a bone-room, preparation-room, and private laboratories were built. In the same year the new chemical theatre was opened, and in 1885 a new anatomical theatre, with seats for 230 students, was completed. Since that time the whole of the new great medical schools have been finished. In addition to professors' rooms and lecture-rooms, there is a fine room specially fitted up for the pathological collection, originally purchased from Robert W. Smith, whose lectures as professor of surgery greatly conduced to the growing success of the school. The collection was largely added to by his successor, E. H. Bennett. The anatomy and chemical lecture rooms of 1824 were completely removed in order to make a space for part of the present range of buildings, which were completed at a cost of over £20,000.



New Physics Laboratories. Built by Viscount Iveagh, Chancellor of the University.

The Present School.

The present medical school was built in 1886. It has a frontage in fine cut granite of 140 ft. to the west, with two wings extending 150 ft. at right angles to the façade. The histological laboratory, built in 1880, is 85 ft. long by 30 ft. broad, with two tiers of seven windows, alternately square and round headed, looking to the north. The anatomical museum, built in 1875-76, is at a little distance from the medical school, and has a façade of 150 ft. looking west, and a depth of 45 ft. It is constructed of cut granite. In it are the museum collections, both of anatomy and of natural history, and on the ground floor is the anthropometric laboratory, where measures and records are taken on a somewhat more extended plan than that introduced by the late Sir Francis Galton at South Kensington. The anatomical school has the advantage that all its lecture rooms and laboratories are on the ground floor. The dissecting-room, well lighted and well ventilated, would accommodate 300 students, who can work there at the same time without inconvenience. It is lighted by electric light. The floor is of oak parquet. Round the walls there is a series of cases containing permanent typical specimens. The whole wall space above these is utilized for diagrams, and in the centre of the room stand two statues, the Venus of Milo and the Boxer. The bone-room and lecture theatre are entered directly from the dissecting-room. The bone-room is lofty and is surrounded by a gallery. On the floor, osteological specimens are arranged in revolving cases on long, narrow tables. The gallery is chiefly devoted to specimens bearing on the applications of anatomy to medical practice. Here also are displayed: (1) A large series of models prepared in the department to illustrate cerebral growth and the cranio-cerebral topography of the child and the adult; (2) a series of models representing the anatomy of inguinal hernia, also prepared in the department; (3) mesial sections of the four anthropoid apes—gorilla, chimpanzee, orang, and gibbon—preparations which are said to be unique. The theatre has seating room for 400 students. There are also museums of surgical and medical pathology and of materia medica. Adjoining the medical school is the chemical department, which has a lecture theatre and two groups of laboratories, and is fitted with all modern appliances for lecture illustrations in the different branches of chemical science.



New Botanical School. Built by Viscount Iveagh, Chancellor of Dublin University.

Sir Patrick Dun's Hospital.

In the early part of the nineteenth century, before the erection of Sir Patrick Dun's Hospital, medical students had little opportunity of getting clinical instruction. The university and the College of Physicians were satisfied with attendance on certain lectures in Steevens' Hospital and the Meath Hospital. In 1800 Sir Patrick Dun's Hospital was founded; it contributed greatly to the development of the "School of Physic in Ireland." Dun was a Scot, and was born at Aberdeen in 1642. He practised in Dublin, and in 1676 we find him described as "Physician to the State and my Lord Lieutenant." From 1681 to 1687 he was President of the College of Physicians, an office which he again held in 1690–3, in 1696, 1698, and 1706. In 1688 he was appointed physician to the army in Ireland. He took an active part in procuring a new charter for the College of Physicians. This charter, which made the College independent of Trinity College, was obtained in 1692. He died in 1713, leaving money for the establishment of two professorships in physic, and for other

purposes connected with instruction in medicine. His house and library were left to the College of Physicians. In 1715 a charter was obtained which incorporated the professorship he had endowed, under the title "The King's Professorship of Physic in the City of Dublin." On the completion in 1808 of the west wing of Dun's Hospital, the clinical teaching connected with the School of Physic was given in the wards and lecture rooms of the hospital, and in 1835 candidates for medical degrees were required to present a certificate of one year's attendance at that institution. Sir Patrick Dun's Hospital was originally intended solely for medical cases; but in 1864 the College of Physicians, which had previously occupied the central position of the building as a library and convocation hall, transferred it to the governors, and it was enlarged and changed into a medico-chirurgical institution for the complete instruction of the students both in surgery and in medicine. This change has been attended with the happiest results, and has materially contributed to carry out the intention of Sir Patrick Dun, who, as appears from his will, considered surgery to be a part of medicine—a view of the subject which Hippocrates and the ancients entertained, and which modern medical science has shown to be correct. Attendance at Sir Patrick Dun's Hospital is no longer compulsory on candidates for degrees; nine other Dublin hospitals are joined with it, and the student may, if he wishes, receive his clinical teaching in any of these.

At one time clinical instruction was given in Latin. Speaking of the crowding of students around a bed, which made it impossible for most of them to see the patient, Graves says:

> When this information was conveyed as it formerly was in Sir Patrick Dun's Hospital in Latin, the student had to encounter another barrier to the acquisition of knowledge. I have called the language Latin, in compliance with the generally received opinion concerning its nature.

Growing Popularity of School.

The growing popularity of the medical school of Trinity College may be gathered from the number of degrees of M.B. which have been conferred at different periods of the nineteenth century. In nearly all cases students of the university who graduate in medicine do so also in surgery and the obstetric art.* The number of medical matriculations for the three years preceding 1891 is given by Stubbs as follows: 1889, students in arts 55, externes 28; 1890, students in arts 61, externes 26; 1891, students in arts 100, externes 28. During the five years previous to 1889 these numbers averaged students in arts 62, externes 34; total average of each year, 96.

Celebrated Teachers.

William Stokes and Robert J. Graves gave to the school of medicine in Dublin a European reputation. Trousseau says:

> As clinical professor in the Faculty of Medicine of Paris I have incessantly read and reread the work of Graves. I have become inspired with it in my teaching. I have endeavoured to imitate it in the book I have myself published on the clinic of the Hôtel-Dieu; and even now, though I know almost by heart all that the Dublin professors have written, I cannot refrain from perusing a book which never leaves my study.

The list of men who have shed lustre on the Medical School of Trinity College whose names are familiar to the lips of all the household of medicine would be longer than Homer's catalogue of the ships. Among the teachers we need only mention Whitley Stokes, John T. Banks, Robert W. Smith, B. G. McDowel, Robert Adams, William Collier, Samuel Haughton, and Arthur Vernon Macan. The medical graduates of Trinity have carried the fame of their *Alma Mater* over the world. Other names come up in association with the thought of Good Queen Bess's foundation. Oliver Goldsmith, though one of the greatest celebrities produced by Trinity College, can hardly claim fame as a doctor. He attended classes in medicine at Edinburgh, and seems to have got a degree of some kind at a foreign university—Padua, according to himself—since he was called "Doctor" by Johnson and other of his contemporaries. His knowledge of medicine, however, must have been meagre to the last degree of tenuity, as he failed to pass the examination for surgeon's mate in the navy—not a very trying ordeal, as readers of *Roderick Random* will remember. Poor Goldy's medical knowledge seems to have been just sufficient to hasten his own death, as he insisted on taking James's powder against the advice of his physicians. Most people know Beauclerk's jest when Goldsmith said that he made it a rule to prescribe only for his friends, "Pray, dear doctor, alter your rule and prescribe only for your enemies."

Other Celebrities.

Mention may be made of a medical graduate of Dublin who did a good work as a doctor in his early days in an epidemic of cholera, but who won fame in another sphere—Charles Lever, whose descriptions of life at Trinity College in *Charles O'Malley* and other novels are said to be faithful reproductions of his own experience.

Sources.

In concluding this brief and necessarily imperfect account of the Medical School we have to express our indebtedness to the Rev. W. J. Stubbs, D.D., author of *The History of the University of Dublin* (Dublin, 1889), and of the chapter on the College during the nineteenth century in *The Book of Trinity College, Dublin, 1581–1891* (Belfast, 1892); and to Professor W. Macneile Dixon's *Trinity College, Dublin* (London, 1892). This article is mostly made up of gleanings from these works, to which the reader who desires further information may be referred. We have attempted to sketch the history of the Medical School of Trinity College, Dublin, from its humble beginnings to the stately institution of the present day. It is the oldest and one of the most justly renowned medical schools in the three kingdoms. Whether in respect of its scientific equipment or the high reputation of its teaching staff it now stands second to none in the world.

* *Clinical Lectures on the Practice of Medicine.* New Sydenham Society. MCCCLXXXIV.

BRITISH MEDICAL BENEVOLENT FUND.

AT the May meeting of the committee 30 cases were considered and grants amounting to £284 made to 29 of the applicants. Appended is an abstract of the cases relieved:

1. Widow, aged 55, of M.D. Left quite unprovided for at recent death of husband, whose practice had been falling off for several years. Children unable to help. Voted £5 and case to be reconsidered at next meeting.
2. Widow, aged 59, of L.R.C.P., L.R.C.S.Edin. For many years has supplemented husband's small earnings as ship's surgeon by letting lodgings, and has to partially support a daughter who is too delicate to do regular work. Voted £12.
3. Son, aged 19, of late M.B., C.M.Edin. Has recently obtained a post in a good office, but asks help to send a younger brother to a technical school and to obtain suitable clothing for himself. Voted £10.
4. Widow, aged 46, of M.R.C.S., L.R.C.P. Since husband's death, two years ago, has been endeavouring to establish a boarding-house, but is now incapacitated by an incurable complaint. Voted £20.
5. Daughter, aged 68, of late M.R.C.S. Was comfortably provided for, but lost most of her property through the defalcations of a solicitor, and now has scarcely sufficient for bare necessities. Voted £5.
6. Daughters, aged 65 and 61, of late F.R.C.S.Edin. Entirely dependent on the rent of a small house, which has been unlet for nine months and upon which a considerable sum has been unavoidably spent for repairs. Voted £10.
7. Widow, aged 60, of M.R.C.S. Since husband's death, eleven years ago, applicant has supported herself by dressmaking, but is now in difficulties owing to trade depression and a long illness last summer. No children. Voted £12.
8. Daughter, aged 73, of late M.R.C.S. Used to have an income of £40 a year, but is now, through unforeseen circumstances, dependent on an old age pension of 5s. a week. Voted £12.
9. Daughter, aged 59, of late M.R.C.S. Has supported herself for many years and helped her mother whilst alive by letting lodgings, but is now practically incapacitated. Voted £12.
10. M.B., C.M.Edin., aged 60. Used to have a fair practice in London, but lost his patients owing to continued ill-health, and will probably not be able to start again. Voted £5.
11. Wife, aged 44, of L.R.C.S.Irel. Is in great distress owing to husband's complete mental breakdown, and has been unable to sell the practice. Hopes to get one or two of her children into an institution and then to maintain herself by taking boarders. Voted £12.
12. Daughter, aged 32, of late M.R.C.S. Has recently lost a post as consulting-room attendant through no fault of her own, and asks for help to support herself whilst looking for another situation. Voted £5.

13. Widow, aged 57, of M.R.C.S. Since husband's death several years ago has maintained herself by teaching, but is now incapacitated by an inoperable new growth. Voted £10.

14. Widow, aged 42, of L.S.A. Is practically destitute and in feeble health. No children. Voted £10.

15. Widow, aged 71, of M.R.C.S. Only income a pension of £21 from a charitable society. No children. Relieved once, £5. Voted £5.

16. Daughter, aged 62, of late F.R.C.S. No income. Was superintendent of a nurses' home for several years, but was obliged to resign on account of ill health. Small savings exhausted in helping her mother and an invalid sister. Relieved once, £12. Voted £12.

17. Widow, aged 56, of M.R.C.S. Helped to support her husband during a long illness by taking resident patients, but is now unavoidably dependent on a sister, who is a housekeeper. Relieved once, £10. Voted £10.

18. L.R.C.P., L.R.C.S.Edin. Incapacitated by complete loss of sight and hemiplegia, and entirely dependent on this Fund and wife's earnings by letting lodgings. Five children, aged 17 to 12. Relieved four times, £72. Voted £18.

19. Widow, aged 63, of L.S.A. Since husband's death, several years ago, has endeavoured to support herself by letting lodgings, but finds it very difficult to make both ends meet. One son still dependent. Relieved ten times, £110. Voted £10.

20. Widow, aged 63, of M.R.C.S. Small provision made by husband exhausted in bringing up her family, and now practically dependent on letting lodgings and the help of this Fund. Relieved seven times, £82. Voted £12.

21. Daughter, aged 54, of late M.D.Aberd. Ekes out an annuity of £20 by teaching music, but finds increasing difficulty in obtaining pupils, and is in poor health. Relieved twice, £18. Voted £12.

22. Widow, aged 51, of M.R.C.S., L.S.A. No income; small earnings from sewing and a little help from a son earning a small weekly wage. Relieved eleven times, £106. Voted £9.

23. Widow, aged 64, of L.R.C.P., L.R.C.S.Edin. Earns a few shillings a week by needlework, and receives slight help from children. Relieved once, £5. Voted £5.

24. Widow, aged 76, of M.R.C.S. Is an Epsom pensioner, but asks for a little help towards expenses incurred during the illness of a daughter, recently deceased. Relieved eight times, £88. Voted £5.

25. Daughter, aged 57, of late L.F.P.S.Glas. Is practically dependent on this Fund and another charity, and has been in bad health for several years. Relieved five times, £60. Voted £10.

26. Daughter, aged 63, of late M.D.Aberd. Has a pension of £21 from a charitable society and earns a few shillings occasionally by giving music lessons. Health feeble. Relieved five times, £50. Voted £10.

27. Daughter, aged 62, of late M.R.C.S. Endeavours to maintain herself by needlework and receives a little help from friends. Relieved four times, £52. Voted £12.

28. Daughter, aged 43, of late F.R.C.S. No income, and health too delicate for regular employment. Relieved twelve times, £110. Voted £2 and case to be reconsidered.

29. Daughter, aged 48, of late M.R.C.S. No means and suffers from a chronic complaint of many years' standing. Relieved three times, £54. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, W.

SCIENCE NOTES.

THE effect on growth and development of the removal of the sexual organs in the young of either sex is a subject upon which much has been written, but precise information possessing any true scientific value is scanty. Some experiments on horned sheep recently reported to the Royal Society by Mr. F. H. A. Marshall, Lecturer on Agricultural Physiology at Cambridge, are of considerable interest, tending as they do to show that any effect produced is due to the withdrawal of the stimulus furnished by an internal secretion. The experiments were made on Hardwick sheep, a breed which normally is horned in the male and hornless in the female. In one series of experiments three ram lambs were castrated before puberty, but at different ages, and the effects upon horn-growth were noted. In another series three ewe lambs were subjected to ovariotomy. The general conclusions reached were that (1) the development of horns in the males of a breed of sheep in which well-marked secondary sexual differentiation occurs (as manifested especially by presence or absence of horns) depends upon a stimulus arising in the testes, and this stimulus is essential not merely for the initiation of the horn-growth, but for its continuance, the horns ceasing to grow whenever the testes are removed; (2) the removal of the ovaries from young ewes belonging to such a breed does not lead to the development of horns or definitely male characters, except possibly in a very minor degree.

Dr. Andrew S. McNeil, of Liverpool, has been induced by the perusal of the note in this column published on June 1st (p. 1252) to send the following account of the opinion entertained by an experienced breeder of shire horses. Whether or no we accept Dr. McNeil's theoretical explanation, the empirical observation possesses a certain value. Dr. McNeil writes:

Three or four years ago I attended the manager of a large shire stud farm for a serious accident. During his convalescence we often inspected the horses together, and it was on one of these occasions that he proposed the following axiom—namely, that if a stallion were put to, say, six mares in one day, the first two mares would throw colts; numbers three and four mares would throw colts probably, if the stallion were fresh, and had not been "used" for some days, but if he were aged or stale through "use," then they would probably be fillies; numbers five and six mares (especially number six), he "could gamble would throw fillies, if they threw anything" (that is, if they became pregnant at all). This man did not believe the mare had anything at all to do with deciding the sex of the foal. He believed that fillies were conceived when there were "few seeds" in the sire's sperm—for example, at the end of a day "in use." I may mention that he was a very intelligent man, and, like his father before him, had been all his life among shire stud horses; among other noted horses, he was in charge of the shire "Harold" when he won the championship.

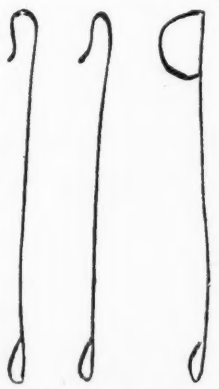
The point would appear to be easily capable of proof, at any rate; but until his ideas are proved or disproved, I think (emanating as they do from a man who has made of this subject a life study) they should not be lightly put aside. If his observations are correct, it would appear that when there are vigorous mature spermatozoa in the semen, one of these in the struggle for existence amalgamates with the ovum to the exclusion of any weaker immature ones, and so begets a male. When, however, there are only immature forms in the semen a female is produced.

SLEEPING SICKNESS.

OPERATIONS BY NATIVES ON CERVICAL GLANDS.

WE have received from Dr. W. Morrison, Medical Officer, Lokaja, Northern Nigeria, the following curious note on the excision of cervical glands by a native doctor, or ju-ju man, in Kabba Province, Northern Nigeria. Dr. Morrison writes:

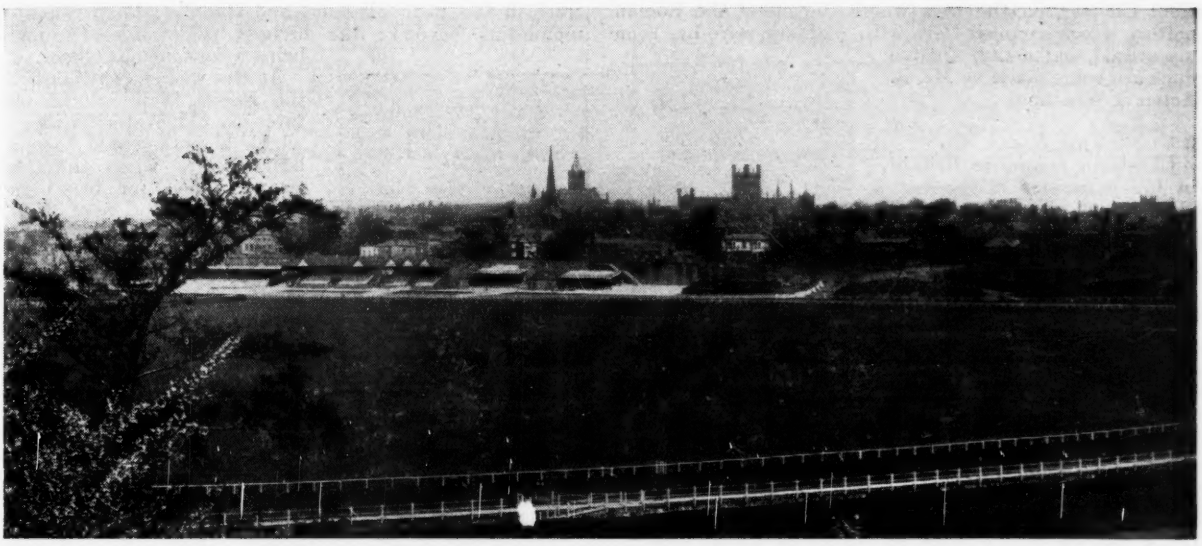
"Recently I had occasion to go to a case of blackwater fever at Kabba, a distance of over fifty miles from here. During my short stay there I observed that most of the natives had very fine scars in the cervical region, and on making inquiries from the Resident, Mr. Ley Greaves, was told that over 60 per cent. of the pagans in his district had these scars, which were the result of an operation performed by the 'ju-ju' man, or local surgeon. This operation was supposed to cure or confer immunity for sleeping sickness.



Hooks. Knife.
Natural size.

"Seeing that I was interested in the matter, Mr. Ley Greaves kindly got the local 'ju-ju' man to perform the operation before me. His choice of subjects fell on two small boys, one of whom had distinct enlargement of the anterior cervical glands on both sides; the other small boy had one gland of the posterior cervical group enlarged. The instruments used were two small hooks and one knife with a rounded edge, very sharp. The gland was picked up under the skin with the thumb and forefinger of the left hand and a small incision made over the gland. One hook was used to pull the wound open, and with the other hook the operator hooked the gland out of the wound, and, with a few strokes of the knife, liberated the gland from its adhesions. Some native medicine was now pressed into the wound with the thumb. The wound bled freely, which probably accounts for the fact that all the wounds heal by first intention, as nothing was done in the way of preparing either the skin or the instruments. The whole operation lasted less than two minutes."

THE late Sir Francis Cruise, Physician in Ordinary to the King in Ireland, left personal estate amounting to over £23,000.



View of Chester from Curzon Park, showing Cathedral, Town Hall, etc.; Roo Dee in foreground.

EIGHTIETH ANNUAL MEETING

OF THE

British Medical Association

LIVERPOOL, JULY, 1912.

CHESTER.

By JOHN ELLIOTT, M.D., F.R.C.P.,
Physician to Chester General Infirmary.

THE Annual Meeting of the British Medical Association, so near at hand as Liverpool, will afford to the members of the medical profession resident in Chester the opportunity of inviting a party to visit the city and see some of the many monuments of ancient and mediaeval times in which it is so rich. A brief account of some of these will, it is thought, not be out of place.

THE ROMAN CAMP AND CITY.

On a projecting rock of red sandstone, 100 ft. above sea level, and sloping on its western and southern shores to the tidal waters of ancient Deva, the Roman legionaries founded the military camp of Colonia Devana, afterwards known simply as Deva—the Caer Lleon (City of the Legion) of the ancient British, which still persists as the Welsh name for the city of Chester.

Of the actual date of its foundation nothing is accurately known. Haverfield, who has made a special study of Roman Chester, sums up the evidence as to its earliest occupation as follows:

"The site was probably occupied as a fortress about the latter part of Claudius's reign, A.D. 50–54, and was, no doubt, in existence when Suetonius opened his campaign against Anglesea (A.D. 61). Ten or fifteen years later it was occupied by the Legio II Adjutrix, and after that legion left our island by the Legio XX Valeria Victrix."

Certain it is that in the early part of the year A.D. 79 Roman Chester had a source of water supply at the spring of Barrelwell, three-quarters of a mile without the Eastgate, for various sections of the leaden conduits have from time to time been unearthed, and in 1899 a length was discovered *in situ* bearing the following inscription:

IMP(ERATORE) VESP(ASIANO) VIIII T(ITO)
IMP(ERATORE) VII CO(N)S(ULIBUS) CN(AEO)
IULIO AGRICOLA LEG(ATO) AUG(USTI)
PR(O) PR(AETORE).

This unique inscription, the only one extant bearing the name of Agricola, accurately fixes the date as above, and although it cannot be taken as a proof that Agricola actually resided in Deva, it goes far to suggest it.

Of quadrilateral form, in accordance with the usual construction of a Roman camp, two of the Gates of Deva occupied the site of the modern Eastgate and Northgate; its primae viae were identical with the existing main streets intersecting at right angles at the Cross, and practically on the same ground level, as shown by Roman pillars still remaining *in situ* both in Northgate and Watergate Streets; its north wall stood on the site of the existing wall, for portions of Roman masonry can be seen near the Northgate with the ancient plinth outstanding. Recent excavations have disclosed sections of the Roman east wall with the fosse almost intact; the south-east angle was unearthed on the site of the new premises of the National Telephone Company in St. John Street, thus giving the line of the south wall, which was found to coincide with the foundations previously discovered near St. Michael's Church in Bridge Street, and believed to be those of the south gate of Deva. The site of the Roman west wall is still undetermined, but its identity will probably be disclosed ere long.

Abutting on the Roo Dee, and underneath the city walls in the neighbourhood of Greyfriars, is a section of Roman masonry exposed, consisting of huge blocks of faced stones, forming, no doubt, the base of a quay wall, designed to resist the encroachment of the tidal river, whose ancient bed lay 22 ft. beneath the surface of the Roo Dee, as evidenced by the discovery of a "pig" of lead bearing a date corresponding to the year 74 A.D. The evidence of coins, etc., shows that Deva was a Roman site in all probability as late as the fourth century; in the sixth century it was unoccupied and lay waste.

The numerous inscribed monumental stones, altars, and tiles bearing the stamp of the XXth Legion, antefixes with a figure of the boar (an emblem of that legion), articles for domestic use and other purposes preserved in the Grosvenor Museum, bear striking witness to the extent and duration of the Roman occupation in Chester, whilst the Hypocaust *in situ* and in perfect preservation at the so-called "Roman Bath" in Bridge Street is only one among a series of interesting finds of similar objects—mosaics, pillars, etc.—in that neighbourhood.

Excavations are now in progress at Holt, eight miles

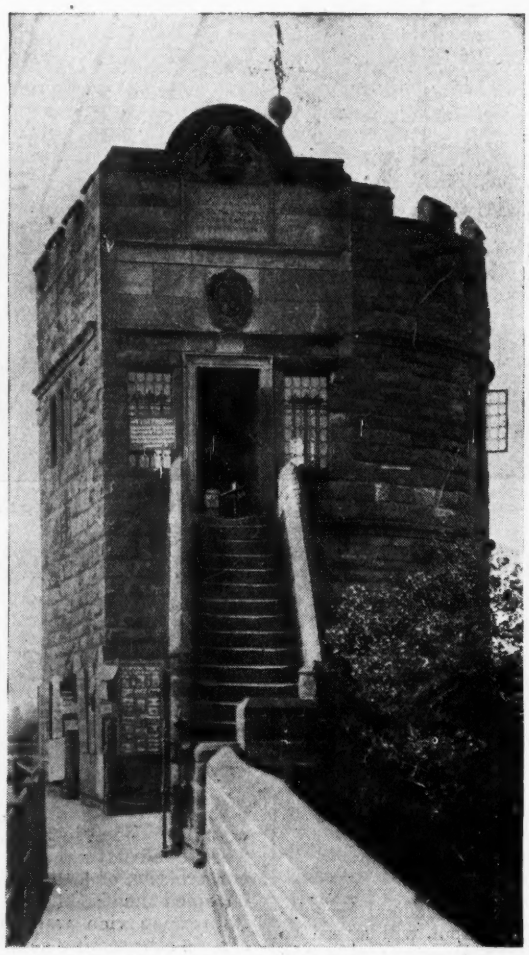
from Chester, on the Dee, where the site of the Roman pottery which supplied Deva with culinary ware has been discovered, and many valuable finds are being made by Mr. R. Acton of Wrexham.

THE WALLS.

Chester is unique in Britain in the possession of its complete circuit of walls, restored and extended in area since Roman times by Ethelfleda, the daughter of Alfred the Great. They form a magnificent promenade 1¾ miles in circumference, the favourite rendezvous of old Chester residents, who, up to quite recent times, were in the habit of meeting in their daily walk on the walls and exchanging snuff with their morning salutations.

The ancient gates of the city were removed about the end of the eighteenth century, to be replaced by the less picturesque but more convenient modern gates existing now.

The north wall is the most interesting portion of the fortifications, both from the historical and the picturesque point of view. Standing high above the canal, which now occupies the site of the ancient fosse, its crumbling masonry, flanked here and there by towers, give it the typical appearance of a mediaeval fort. At its eastern extremity stands King Charles's Tower (known also as the Phoenix Tower), illustrated here. From its summit that ill-fated monarch watched the defeat of his army on Rowton Moor. Near the tower are evident traces of the breach made in the wall by the Parliamentarian cannon during the siege of Chester. Hard by the Northgate is Roman masonry with plinth in the lower courses of the wall, and the whole of the interior of this portion of the wall was found some twenty years ago to be filled in with Roman inscribed monumental stones, which were duly preserved in the Grosvenor Museum. Of the ancient gaol in this position, so severely censured by John Howard, the philanthropist, nothing remains but the "Bridge of Sighs," a melancholy memorial of the last journey of the condemned criminal.



King Charles's Tower, or the Phoenix Tower.

The western half of the North Wall commands a lovely view of the estuary of the Dee; with the thickly wooded park of Hawarden and its castle nestling amongst the trees in the near distance, and the Clwyddian range of mountains beyond; the highest peak, Moel Fammau, being a conspicuous object.

At the western extremity of the North Wall is the picturesque old Water Tower, to which ships are said to have been moored when the tidal river washed its base and Chester was the port of embarkation for Ireland. Lovers of Milton will be familiar with the poem of Lycidas, written to the memory of Milton's friend, King, who was lost on the perilous voyage to Ireland, "where Deva spreads her wizard stream."

Adjoining the West Wall are the infirmary and the Queen's school. The infirmary field has been traditionally called the "Plague Field," and it was somewhat vaguely stated that a law existed forbidding the soil to be disturbed for building purposes. This, however, is one of the *leges non scriptae;* and the present excavations for the foundation of the new infirmary have cut some 2 ft. of virgin soil, and then struck the boulder clay, thus confirming the view held by the writer that, just as the "sick of the plague" were accommodated in the old days in sheds without the walls near the Water Tower, so the plague victims would in all probability be buried outside the walls. In fact, there is direct evidence confirming this view.*

Beyond the Water Gate is the Roo Dee—a picturesque racecourse—in mediaeval times the playground of Chester. One of the illustrations is a photograph taken from Curzon Park showing the modern city with its cathedral and churches and town hall.

Eastgate Street, with the East Gate.

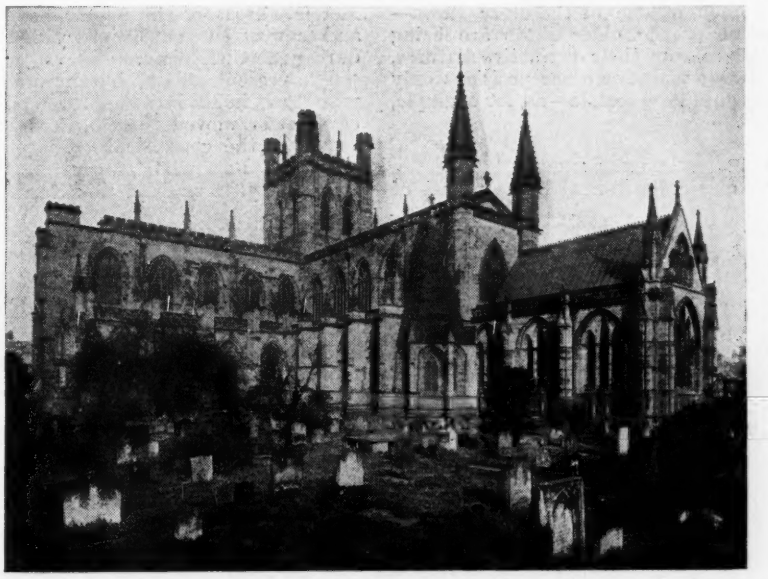
The south wall has the Castle within, the only part of the old castle remaining being the Square Tower, known as Caesar's Tower, containing the chapel in which James II heard Mass on his visit to Chester. The barracks of the 22nd, or Cheshire Regiment, and the modern Law Courts occupy the remainder of the precincts.

On the south side of the river is the fishing village of Hand-

*Since writing the above the site of the Roman cemetery has been unearthed during excavating for the foundations of the new infirmary in the infirmary field. Several Roman tombs, with skeletons enclosed, have been opened up, and various interesting objects recovered. This "find," which is one of the utmost importance, is being carefully investigated, and will be exhaustively described.

bridge, where the visitor can, from the walls, watch the salmon fishing in operation, with a lively anticipation of the excellent flavour of the famous Dee salmon.

The field adjoining the fishing village is known as Edgar's Field, now used as a public park, and containing, carved on an outstanding rock by Roman hands, a rude figure of Minerva, the guardian goddess of the Dee; for here existed the Roman ford connecting Deva with the Roman road to the South.



Chester Cathedral.

It would be a grave omission not to mention the old legend of King Edgar (of pageant fame) being rowed on the Dee from his palace in Edgar's Field to the Church of St. John by the eight tributary kings, of names unpronounceable, but of fame imperishable.

The old Dee Mills, hard by the Bridge Gate, were founded by Hugh Lupus, first Norman Earl of Chester, and now, after some eight or nine centuries of strenuous life—having fulfilled their destiny of being burnt down thrice, as foretold by Robert Nixon, the Cheshire prophet—they are dismantled, and must give place to a water turbine for providing electricity for the city. The occupation of the "Miller of the Dee" has gone!

At its eastern extremity the South Wall commands a beautiful view of the river, with the old Dee Bridge (Edwardian) and the ancient weir, the Groves, and all the paraphernalia of the boating fraternity.

The East Wall faces the Bishop's Palace and the ruins of the old collegiate church of St. John, crosses the Newgate, with the Cockpit hard by, now used as a shoeing forge. Until the year 1843 cock-fighting was a prominent feature of the race week; an official known locally as "Cockdrum Jones" was in the habit of parading the racecourse, crying, "A main of cocks will be fought" at such and such a time and place. He carried and vigorously beat a sidedrum, and had a picture of a fighting cock painted on his back. One of the last of the devotees of this cruel pastime was the Sedan chairman at the Cross, who occupied his leisure time whilst waiting for his "fares" by making vent-pegs for beer barrels.

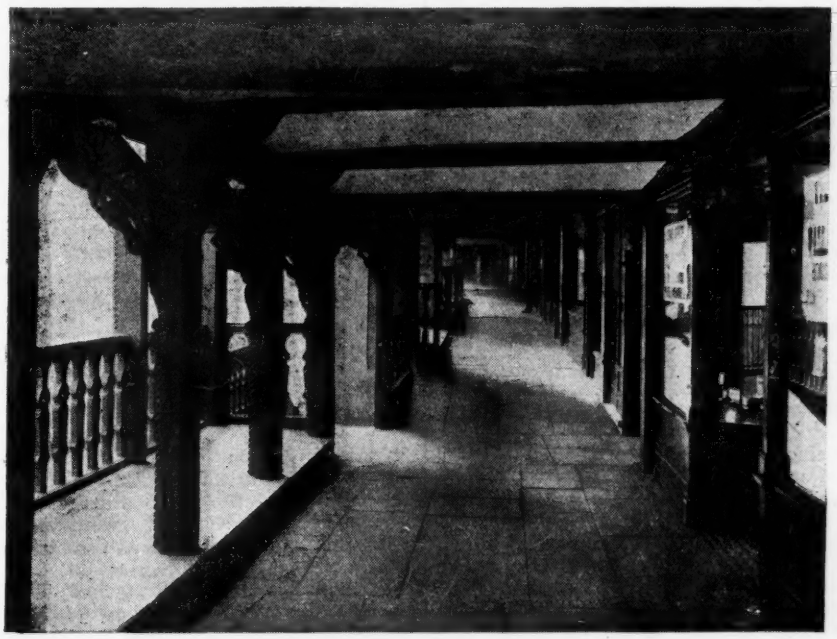
Near the Newgate, also, are the foundations of the Roman wall, referred to above, exposed to view on the new premises of the National Telephone Company in St. John Street, and the adjoining premises occupied by Messrs. F. A. Dickson and Sons. Visitors to Chester should on no account omit seeing these interesting relics.

The Eastgate crosses the main street of Chester, and completes the circuit of the walls. Between here and the Phoenix Tower the Cathedral adjoins the walls.

THE ROWS.

Next to the walls, Chester prides itself on its Rows, and justly, for they are unique. Surmounting the shops at the street level is a covered promenade, broad, airy, and dry, providing for an additional tier of shops in the row, recessed from the street frontage; pillars, varying in form, material, and date, supporting the overhanging gables of the houses above.

Singular to relate, Dr. Pigot, a former physician to the Chester Infirmary, wrote an excellent book on the history of Chester in 1815, with beautiful etchings by Cuitt, and omitted all mention of the Rows. It is said that he was so mortified at this omission that he tried to recall the whole edition of his book, which is consequently scarce and valuable. The origin of the Rows has been a bone of contention from time immemorial, and has embittered the relations of succeeding generations of local antiquarians. Pennant and others, somewhat unintelligibly, ascribe their origin to Roman times, and compare them to the colonnaded buildings of that period.



Watergate Row, looking east.

Others date them from the days when the inhabitants of the city were frequently called upon to resist incursions of the Welsh, the Rows forming a vantage ground from which to assail the enemy's horsemen in the street. This is equally unintelligible, for it is clear that the intrusive Cambrian, before encountering the attention of his Cestrian neighbours ensconced in the Rows, must previously and perforce have accomplished the disestablishment of the city walls and gates, the first and all-important line of defence.

The true explanation, due to Professor Robert Newstead, seems to follow from a consideration of the comparative levels of the street in front and at the back of the houses.

The former is practically on the rock, whilst the latter is "made ground," or, rather, accumulated rubbish, at the level of the Rows. It can easily be understood that the ingenious Cestrian of the period accordingly conceived the brilliant idea of having a double row of shops, with a covered promenade, to give access to the upper. Some of the Rows are ancient and dilapidated, the beams and pillars in some cases being fourteenth century work. The illustration is a specimen of one of the older Rows—Watergate Row. Some of the older Rows are being gradually modernized and losing their distinctive features, notably Shoemakers' Row; whilst in other positions only short sections of the original Row remain—as, for example, in Lower Bridge Street.

Ecclesiastical Architecture.

In an old cathedral city ecclesiastical history must of necessity loom largely, and Chester is no exception. The names of streets, White Friars, Black Friars, Grey Friars, refer to the old monastical foundations. Of these little remains but the name. A fragment of the boundary wall of the Carmelite monastery of St. Mary persists in Weaver Street, and excavations in Bollands Court some thirty years ago disclosed some mediaeval floor tiling on the site, together with fragments of pottery, etc.

Bishop Lloyd's Palace, Watergate Street.

Only a few months ago the extension of a business premises within this area necessitated rather deep excavations, and the remains of an ancient wine press were unearthed surrounded by masses of grape skins mixed with incinerated earth. Imbedded in this was a skeleton. The writer had an opportunity of examining the skull, which was that of a young adult male; in the occipital region it showed a piece 2 in. by 1 in. shaved off the outer table. Wounded probably in a street brawl, the unfortunate man had been carried in to die and be buried in a nameless grave.

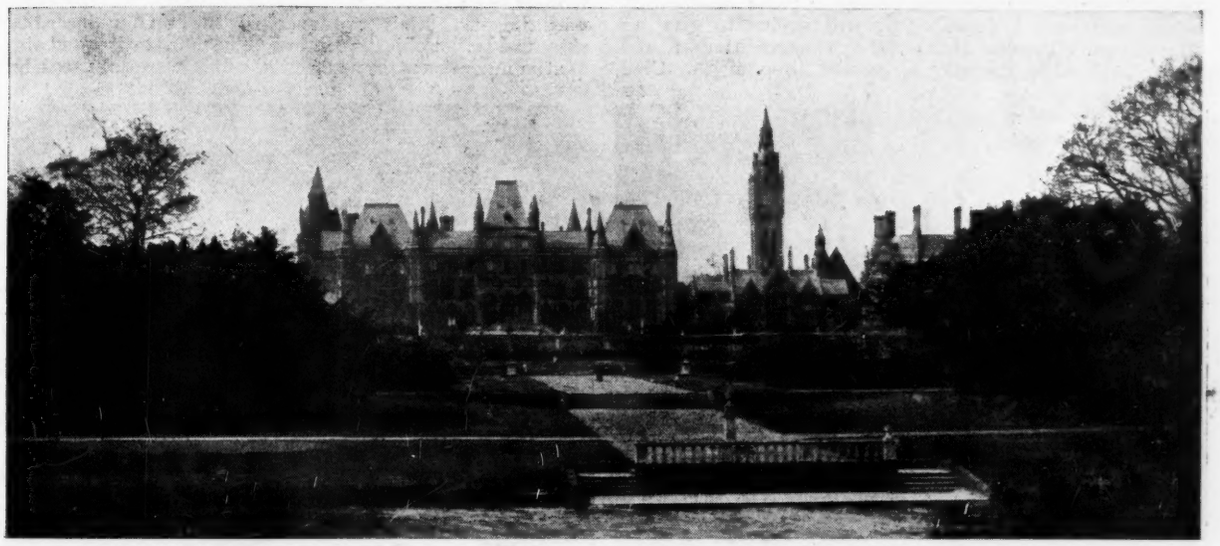
Two noble monuments of Church history survive—the Cathedral (the old Abbey Church of St. Werburgh) and the Collegiate Church of St. John, the latter situated without the walls on the bank of the river. About the year 660 Wulpherus, King of Mercia, founded a nunnery for his daughter Werburgh, who desired to take the veil. After being abbess of three religious establishments, she died at Trentham and was buried at Hanbury in Staffordshire. About the year 875 her remains were brought to Chester, ostensibly to prevent their desecration by the Danes, but in all probability that they might repose in the abbey originally dedicated to herself as St. Werburgh. Her shrine still remains as the most interesting relic in the Cathedral, and according to ancient legends its possession has led to the miraculous preservation of the city on divers occasions owing to the intervention of the saint. It is a massive stone structure, 8 ft. 9 in. by 7 ft. 6 in. by 4 ft. 8 in., ornamented with six arches, variously carved and having originally a number of gilded images holding scrolls inscribed with the names of the kings and saints of Mercia. Most of the figures have been much mutilated and some of them destroyed, either at the Reformation or during the Civil Wars.

The present abbey church was founded and endowed with lands in 1083 by Hugh Lupus, the first Norman Earl of Chester, moved thereto, it is related, by a desperate attack of the gout, seconded by the entreaties of Anselm, Abbot of Bec, who afterwards became Archbishop of Canterbury. Traces of this Norman church are found in the north transept and baptistery. The remains of Hugh Lupus were discovered beneath the chapter house in 1724, enclosed in a stone coffin. The strings which tied the ankles together were perfect, and the muslin shroud which enveloped the body was preserved.

The See of Chester was included with Lichfield and Coventry until the dissolution of the monasteries by Henry VIII. Chester was erected into an episcopate in 1541, a portion of the Abbey lands being confiscated. The See was in the province of Canterbury for one year and afterwards in that of York. The most famous of the Bishops of Chester was Bishop Pearson, whose exposition of the Creed has perpetuated his fame. He died in 1686, and was buried without inscription in the Cathedral; his remains were discovered in 1844, and were laid in the north aisle of the choir beneath a tomb with recumbent effigy.

Bishop Lloyd was Rector of Thornton and Bangor in this diocese, and Bishop of Man. His palace in Watergate Street is an old timbered house with quaint scriptural carved panels, and a fine fireplace and ceiling within. It is much frequented as a show place for visitors.

The architecture of the Cathedral presents examples of all the various periods. The Chapter House and Lady Chapel belong to the Early English period; the choir and the south transept (Parish Church of St. Oswald's) to the Decorated; the clerestory windows are examples of the Perpendicular style, while Jacobean work is found in the south-west tower and elsewhere. The refectory, with its



Eaton Hall, the seat of the Duke of Westminster.

reader's pulpit, is an example of Early English. The cloisters, mostly fifteenth century work, are falling into decay, and a movement is now on foot to restore them. Cardinal Wolsey's arms are to be found at one spot in the cloisters. The oak carving in the choir is very beautiful, dating from the close of the fourteenth century, and is very similar to that in Lincoln Cathedral. It was at one time covered with coats of paint, varnish, and dirt, the accumulation of ages, but has now been restored to its original beauty. It is said to have cost £50 to restore each stall. The carved misericordes are very quaint, and only six of them are not original.

In 1868 and the succeeding years the Cathedral was restored by Sir Gilbert Scott during the office of Dean Howson. Visitors in connexion with the annual meeting of the British Medical Association will have the advantage of hearing Archdeacon Barber describe its history and architectual features, of which he has made a long study, and on which he is the recognized authority.

The Church of St. John, whose beautiful Norman nave is now used as the parish church, dates from the seventh century. "King Ethelred, minding to build a church, was told that he should see a white hind, and there he should build a church, which white hind he saw where St. John's church standeth." This vision of the white hind is the subject of an old fresco, dimly restored, on one of the pillars of the nave. St. John's was the cathedral church before the suppression of the monasteries. In 1881 the tower fell for the third time, doing much damage to the fine old porch, which, however, has been restored. It is interesting to note that De Quincey, the opium eater, lived at St. John's Priory, a building within the precincts, in the early years of the nineteenth century.

Lower part of an altar, found in 1851 under the Saracen's Head in Northgate Street, bearing the following inscription:
. . . (σωτ)ῆρσιν (ὑπ)ερμενέσιν Ἑρμογένες ἰατρός βωμόν τονδ' ἀνέθηκα.
Translated: "To (. . .) the saving and most mighty, I, Hermogenes, a Physician, dedicated this altar."

There are other ancient churches in Chester, notably Old St. Mary's, possessing distinctive and interesting features of their own.

DOMESTIC ARCHITECTURE.

No visitor to Chester should omit seeing the ancient "crypts," with their beautiful groined arches and pillars of stone. One, in an excellent state of preservation, is on the premises of Messrs. Quellyn Roberts, Watergate Street, and another at Mr. Newman's, in Bridge Street, adjoins it at its extremity. Their date is of the twelfth and thirteenth centuries, and each has an aumbry, or square cupboard, with remains of the hinge sockets. Another very perfect one is under the premises of Messrs. Brown and Co., Eastgate Street. Several have been removed in erecting modern buildings, and traces of others can be found in various parts of Watergate Street, etc. It is generally assumed that these were underground cellars for storing merchandise, but it has always seemed to the writer unlikely that such ornamental work should be put to so commonplace a use. Rather does it seem probable that they were used as abodes of entertainment and conviviality, and we know that such abounded in the city, and in fact were carried to such an extent that they had to be regulated by the city authorities; and the ancient chronicles tell us of sad doings in dim mediaeval Chester.

The following record bears out to some extent the above view: "Wm. Ball, late Mayor, presented 1569 for selling and exposing for sale, in his house and cellar, beer and other victuals on Sunday, etc., and keeping cards, tables, and other unlawful games there." Also in the previous century similar prosecutions had been instituted.

Of the wealth of interesting facts to be unearthed by

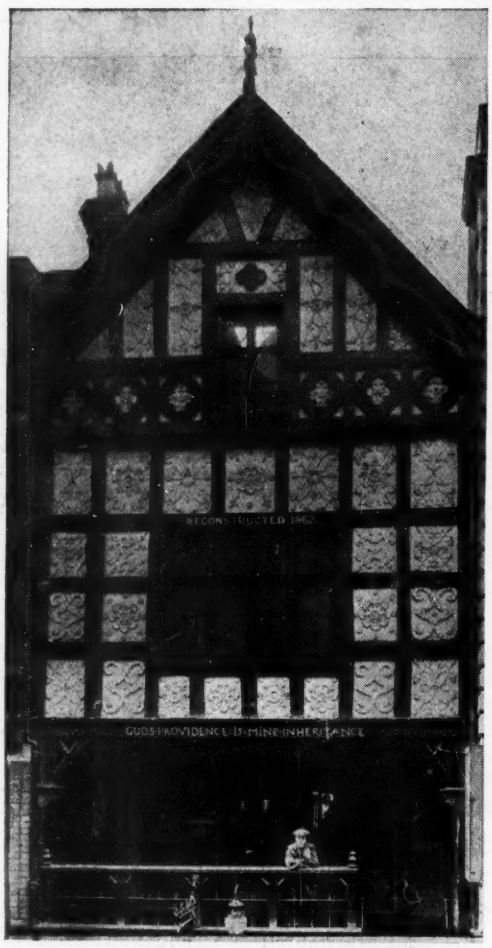
research among the neglected houses in parts of the city which were once fashionable, it will suffice to give an illustration. Randle Holme, the Chester Herald and historian, lived in the city about the time of the Civil War; but until a few years ago no local antiquarian had been able to locate his residence. A Lancashire antiquarian entered the old timbered, double gabled inn known as the King's Head, in Lower Bridge Street. There he found an unused, oak panelled room, begrimed with dust, and almost roofless, with an old fireplace showing heraldic signs on the chimney piece. These were the armorial bearings of Randle Holme, and the question of his residence was solved; a fact which was to receive striking confirmation a few months afterwards, when a workman was removing the oak dado from near the fireplace, and there fell out an old letter, excellently preserved, with the following superscription: "For the loving hands of my cousin, Randle Holme—these." It was a letter of introduction from a friend who wanted some information as to his coat of arms. It had slipped behind the panelling, where it had rested for 250 years.

Carden Park, Chester.

Lower Carden Hall.

The Town Hall of Chester is a modern building. An inspection of the city records and plate should on no account be omitted. The Sword of the City, presented by Henry VII, was carried before the King at the Installation of the Prince of Wales (who is also Earl of Chester) at Carnarvon last year. Valuable cups, etc., have been presented to the city from time to time. The records include documents signed by the Black Prince (who was also Earl of Chester), Oliver Cromwell, and other royal and distinguished personages. The earliest charter of the city is by King John, May 3rd, 1201.

The Natural Science Society was founded by Canon Kingsley when Canon in Residence. After his death, with the assistance of the late Duke of Westminster and the principal residents, a handsome and commodious building, the Grosvenor Museum, was built to accommodate the various scientific and antiquarian societies in connexion with the city. In it are deposited the Roman inscribed stones and other objects of value. The museum is noted also for the magnificent stuffed birds, which were prepared by Professor Robert Newstead, F.R.S., when curator of the museum.



God's Providence House, Watergate Street.

There is a flourishing art school and technical day schools in connexion with the museum, and the microscopical section of the Natural Science Society has as its members some enthusiastic and successful workers. The annual *conversazione* is one of the notable events of the year.

Of educational establishments, the King's School and the Queen's School are in the first rank of successful schools.

Eaton Hall, the seat of His Grace the Duke of Westminster, is situated some four miles from the city, and is easily accessible either by steamer up the river or by road through Eaton Park. Built by Mr. Waterhouse, the present hall replaced the Gothic structure on the same site. Its beautiful gardens, magnificent pictures, and other objects of art; its stables, the home of Bend Or and Ormonde, and later of Orme, form an unfailing attraction to visitors. By the kindness of His Grace the park is always open for cyclists, pedestrians, or carriage traffic, and those who visit Chester during the Annual Meeting of the Association this year will be hospitably entertained by His Grace at Eaton Hall.

Another ancestral home within easy distance of Chester is Hawarden Castle, with its beautiful undulating park and historical trees. In the church hard by is the tomb of the Right Hon. W. E. and Mrs. Gladstone; whilst in the pretty village of Hawarden one is constantly reminded by public buildings and statuary of the deceased statesman.

MEDICAL CHESTER.

The history of Chester, from a medical point of view, presents features of unusual interest, and this, it is hoped, will excuse a somewhat lengthy notice.

Probably the earliest mention of a physician in Britain,

certainly the earliest monumental inscription referring to one, is that inscribed on an altar found in July, 1851, on the site of the Saracen's Head, in Northgate Street, Chester, which is now part of the public market. The inscription, illustrated here (p. 1315), is in Greek. It dedicates the altar "to the saving and most mighty" by "Hermogenes, a Physician." Hermogenes was evidently serving with the Roman forces as physician, and Sir James Simpson suggests that he was the body physician to the Emperor Hadrian, and sent by him to the Roman stations in Britain. The dedication to "the saving and most mighty" suggests that Hermogenes may have undergone a perilous voyage on his journey to Britain.

Another royal physician has left his mark on Chester history — John Leche, a member of the knightly family of the Leches of Derbyshire, the former owners of Chatsworth. Of him as surgeon (leech) to King Edward III the Cheshire Rolls contain the following entry:

1381–2. January 17, grant to John Leche, the King's Surgeon, by the King (Richard II), of an annuity of £10 to be received out of the issues of the Mills of the Dee in lieu of a like annuity granted to him by Edward Prince of Wales (the Black Prince), to be received at the Exchequer at Chester, 1384, August 13.

Again:

Pardon to John Leche, by the King, in consideration of his good services "per continuam moram suam in hospicio nostro."

So that John Leche was also surgeon to Richard II. The "pardon" spoken of did not imply that the recipient had committed crime. It was a compliment paid to those who had done good service. John Leche married an heiress, Eleanor, co-heiress of Cawarden or Carden, and settled at Carden, eleven miles from Chester, where the beautiful half-timbered old Cheshire mansion exists in a park which contains the descendants of the original herd of deer that he established. In the oak ceiling of the hall is emblazoned his escutcheon—the club with the serpent vert entwining it, the emblem of the physician, and the three golden ducal crowns which were granted to him by the Black Prince after he had entertained the three kings —Edward of England, John of France, and Robert of Scotland—at his mansion of Temple, near Maidenhead on the Thames. Carden Old Hall, the present residence of Mrs. Leche, is a dower house of the family, and has some beautiful twelfth century (?) work in the interior.

As was usual in old Chester, the younger branches of the county families settled in the city as merchants, and the Leche town house persists in Watergate Row, the escutcheon showing a crescent—a mark of cadency—showing that it belonged to a younger cadet of the family.

The Old Ward in the Chester Infirmary which was used by Dr. Haygarth for the isolation of fever patients in 1783.

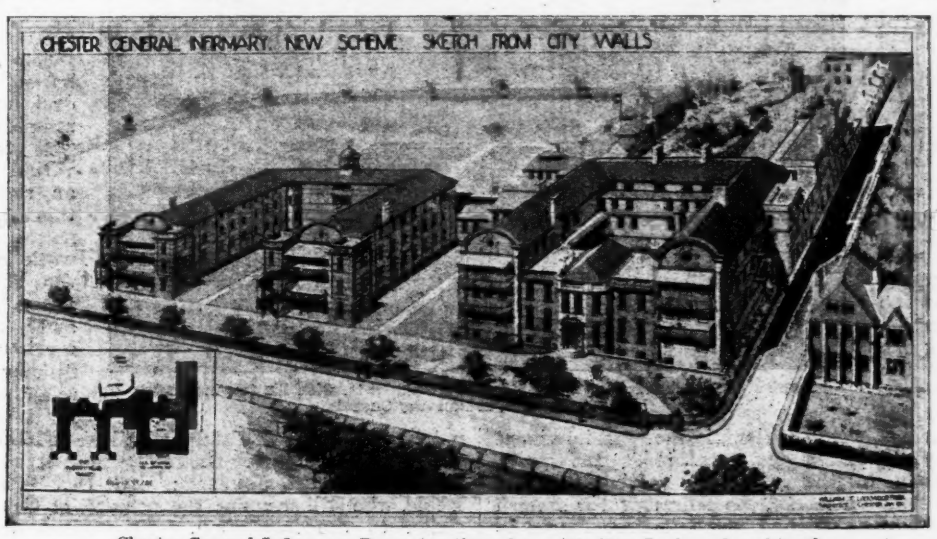
In the south transept of the cathedral is a plaque by Randle Holme with the arms of Alderman Leche, who was drowned in a flood on the perilous journey by road to London, whither he was journeying to spend Christmas with some relatives.

Carden sustained a siege from the Parliamentarians of Nantwich during the Civil War; the squire was captured, his plate and pictures confiscated, and he himself taken prisoner to Nantwich, the only life lost being that of a housemaid who was protecting one of the doors leading into the garden, which is *in situ* to this day.

The records of the Barber Surgeons Company of Chester are extant, the earliest book covering the period from 1606–98. To quote from the *Cheshire Sheaf:* "Chester barbers were prominent citizens, ranking with, and exercising most of the functions of, surgeons and physicians. They dressed wounds, drew teeth, bled their patients in more ways than one, made up ointments and pills calculated either to kill or cure in all sorts of disorders as were to be found anywhere within our ancient wall."

Divers epidemics of the plague devastated Chester during this eventful period. In 1648, about midsummer, the plague broke out and raged so violently that upwards of 2,000 persons died of it, and the city became so deserted that grass grew in the streets at the High Cross. No doubt this outbreak was directly traceable to the effects of the long siege of Chester, with its accumulated filth and destitution. An interesting sidelight is thrown on this question by the following order promulgated in Council:

That the Lord Bishop be enjoined of the unwholesomeness of the puddle near the Eastgate, and the inhabitants be ordered to cleanse the streets before their respective doors *within one month*, under a fine of ten shillings.



Chester General Infirmary: Reconstruction scheme (Mr. Wm. Lockwood, architect).

In Watergate Street is an old gabled house, dated 1652, with the motto—"God's providence is mine inheritance," commemorating the escape of its inmates from the plague, which invaded almost every other dwelling.

In the records of the Barber Surgeons Company it is chronicled that the annual festivities of the company with the election of aldermen, which took place in the Phoenix Tower, were discontinued during the plague year.

The Barber Surgeons were jealous of their privileges, and prosecuted interlopers. They frequently had recourse to law, and the following entries in their accounts speak of their gratitude for legal favours:

Item for a pottle of sack to bestowe upon Mr Recorder for his trouble in our sute ...	00 . 02 . 08
Paid for a sugar loafe to be sent the Recorders wife	00 . 04 . 08

The Infirmary.

Nothing further of special medical interest transpires in the city history until the foundation of the infirmary in 1755, which was opened in the unoccupied part of the Blue School, Northgate Street, in January, 1756, the staff consisting of four physicians, four surgeons, and a house apothecary.

The existing infirmary was built in 1761 on a site adjoining the city walls, near the Water Tower, about 60 ft. above the level of the river, and commanding a fine view of the estuary and mountains beyond—probably the most satisfactory site that could have been found in the city. The plan of the building was a quadrangle of four stories, fronting the west, with central area of 54 ft. by 42 ft. The principal wards ran the whole length of the infirmary north and south, each containing twenty-four beds, with the east and west sides of the quadrangle taken up with staircases, chapel, and four small rooms for nurses or private patients. The hospital accordingly accommodated 100 beds, affording about 1,000 cubic feet of air space per patient.

Tomb of Sir Hugh Calveley, one of Edward III's knights, with Dutton memorial window over it, in Bunbury Church.

In 1766 John Haygarth, whose name will be for ever memorable in Chester, was appointed physician to the infirmary. His life and work form such an interesting page in the medical history of his time that they will form the subject of a subsequent paper in this Journal. It will suffice to say here that, owing to his genius, the Chester Infirmary has the honour of having been the first hospital to institute wards for the isolation of fever cases. The long ward in the upper story to the north was divided in two by a wooden partition in 1783, one half being used for male fever cases and the other half for females. During the first year, says the annual report, "thirty cases of fever were admitted, many of them in the most imminent danger, yet they all, except one, recovered." Dr. Currie, another physician to the infirmary, writing in 1802, says: "I constantly attended the infirmary for sixteen years, and there never was at any one time reason to suspect that contagion had been communicated from the fever wards to the other patients in the house."

A description of Dr. Haygarth's researches on the incubation period of fevers, his institution of the "Small-pox Society" in Chester for the isolation of cases, and the spread of general inoculation, with the incalculable benefits which accrued thereto, must be reserved for another paper. He was made a Fellow of the Royal Society, and enjoyed the friendship of the greatest physicians of his day.

In 1767, Wm. Falconer was appointed physician. Born in Chester in 1744, the son of the Recorder of Chester, by marriage with Miss Wilbraham of Nantwich, he studied medicine at Edinburgh, and afterwards at Leyden. He removed to Bath in 1770, and was made a Fellow of the Royal Society in 1773. He wrote several works on the Bath waters, on influenza (1782), and again in 1803 reprinted in the *Annals of Influenza* (Sydenham Society). He was awarded the silver medal of the Medical Society of London for his dissertation on *Diseases of the Hip-joint* (1805), and also wrote on theological and botanical subjects.

In 1798 William Makepeace Thackeray was appointed Physician. He was first cousin once removed to the great novelist of the same name. Born in 1770, he studied medicine at Cambridge, and was in Paris as a student at the time of the outbreak of the French Revolution, when he witnessed the storming of the Bastille. In 1793 he commenced practice as a physician at Denbigh, but subsequently removed to Chester. He is known to have said that when he first commenced practice there were sixteen physicians within a radius of 40 miles, all of them educated either at Cambridge or Oxford, and that when he should die there would not be one left, so much had the provincial profession fallen off in dignity. He was an enthusiastic planter of forest trees, and thrice received the gold medal from the Society of Arts for his success in this art. He took a great interest in the Blue-coat School, and left a reversionary legacy to it. By the terms of his will the senior physician to the infirmary has the nomination of one scholar. Dr. Thackeray suffered intensely from the gout, and died in 1849. He was awarded a public funeral, and was buried in the Cathedral, universally admired and respected.

It is impossible within the scope of an article such as this to give extended notice of the life-work of others of the honorary staff whose long, faithful, and distinguished services to the infirmary entitle them to an honoured place in its archives—notably Dr. Edward Waters, who died in 1890; Mr. James Taylor, whose obituary notice appeared so recently in the British Medical Journal; and Dr. William Murray Dobie, who still occupies the position of Consulting Physician to the institution. The writer believes that services so recent will be fresh in the recollection of their professional brethren.

By the original plan of the infirmary the large open central area ensured efficient ventilation and lighting for the interior of the building, but the board of management in 1829 decided that the hospital, however suitable it might have been for its original purposes, did not come up to the standard required at that enlightened period, and they proceeded to spend several thousand pounds in filling up the area with nurses' rooms, water-closets, sculleries, etc., effectually blocking out sunshine and fresh air, and necessitating a complicated system of drainage under the building, destined to become a fruitful source of trouble by-and-by.

The consequence of these "improvements" has been that the wards are gloomy and ill ventilated, the passages dark and difficult to clean, and what was left of the central area remains like a well into which the sunshine never penetrated.

In 1910 a movement was set on foot to remedy these defects and renovate the hospital; and the services of Mr. Waterhouse, of London, were requisitioned to consult with Mr. Lockwood, of Chester, the architect to the Infirmary, and advise the Board as to the necessary procedure. A committee was appointed to visit the principal modern hospitals in the kingdom, and the result of their united labours is the scheme, an illustration of which appears at p. 1317. Two new blocks are to be erected in the "Infirmary Field," parallel to the existing structure and facing the walls. They are to be equipped with all the latest appliances—new operating theatre, with adjoining laboratory, anaesthetic room, consultation room, and small isolation wards.

The old building will be entirely renovated—the central area cleared of all its objectionable encumbrances, and cross ventilation and lighting by opposite windows provided in all the wards, ample air space being provided for each patient. An entirely new and up-to-date out-patient department will be constructed, with an adequate number of consulting rooms, new *x*-ray department, and dispensary. The roof of the old building will be raised to provide additional air space to the old gabled wards on the upper floor, the two on the north side being the original isolation wards of Dr. Haygarth. An entirely new system on the latest principles for heating and lighting will be instituted. The nurses' home will be reorganized and enlarged, and tennis courts will be provided for recreation.

Balconies and airing courts for convalescents and open-air treatment are arranged. There will be 150 beds in the new infirmary. The cost of the whole scheme is £40,000. The contract has been given out, and the work on the new blocks is now being proceeded with. The public appeal for subscriptions has not yet been issued, but already £23,000 has been promised. Mr. Albert Wood of Conway has undertaken to defray the cost of the new blocks, and has subscribed £12,500 for this purpose. They will be known as the "Albert Wood Wards." The Duke of Westminster has subscribed £3,000, and Mr. George Barbour £1,000, and an anonymous donor £1,000. The various business establishments have also subscribed handsomely, and a general interest is being taken in the work in the city and district.

Bunbury Church.

The illustration of Bunbury Church commemorates two Cheshire "heroes," one renowned in war—Sir Hugh Calveley, one of the most distinguished of King Edward III's knights, whose beautiful alabaster tomb was built by his comrade in arms, Sir Robert Knolles; the other, Dr. Everett Dutton, Walter Myers Fellow of the Liverpool Tropical School of Medicine, who died at Kasongo, Congo Free State, February 27th, 1905, of relapsing fever, whilst engaged in studying the sleeping sickness. He was the first to recognize a trypanosome in human blood. The stained-glass window in the illustration over the Calveley tomb was placed there in his memory by his brother and sisters residing in the neighbourhood. I cannot do better, in concluding this short notice of him, than to quote the appreciation of Dr. Dutton by Sir Rubert Boyce:

> He laboured not for himself, nor for a single country, but for the whole of humanity.

LITERARY NOTES.

THE Oxford University Press will shortly publish a study by Dr. H. P. Cholmeley of John of Gaddesden, who was the first English Court physician, and of his chief work, known as the *Rosa Anglica*. The *Rosa*, written in 1314, was first printed in 1492, and is mentioned by Chaucer. John of Gaddesden was a graduate of Oxford in Arts, Medicine, and Theology; he died in 1361, and is supposed to have been born about 1280.

Dr. William L. Storey (Dublin) writes:

> On September 2nd, 1911, I received a letter from a friend in which, *inter alia*, he waxed enthusiastic over a recent purchase—a copy of the *Concise Oxford Dictionary*. The same post brought my BRITISH MEDICAL JOURNAL, and, by a happy coincidence, I had the pleasure a few minutes subsequently of reading your confirmation of my correspondent's opinion. Alas! we have discovered a fly in the ointment, and we ask wistfully if it is likely to reappear when the ointment is repeated. The insect goes by the name of *r*, and the *Concise Oxford Dictionary* declares that it concludes the sound of the word *idea!* Is it any wonder that we "stared at the" intruder, and "looked at each other with a wild surmise—silent"! Could you suggest whether the addition of this foreign body was due to inadvertence, official design, or provincial bias of conspiring proof-reader and compositor? In any case, a new system of practical musketry has been foisted on the young *idear*.

While approving on the whole of the *Concise Oxford Dictionary*, we cannot hold ourselves responsible for everything contained therein. We may inform Dr. Storey, however, that he is not the first in the field in regard to the pronunciation of "idea." In the *Periodical* issued by the Oxford University Press (May 15th) we find the following reply to another critic:

> A correspondent of the *Spectator*, signing himself "Scot," found a mare's nest in the *Concise Oxford Dictionary*. Misrepresenting, for want of a proper phonetic symbol, the entry relating to the pronunciation of idea, he complained that "idea" was given as "īdēr." As a matter of fact, it is not "īdēr" but "īdēr"; and this symbol "ēr", does not mean that the "r" is to be sounded before a vowel (i.e. "I had no idea rof"). The *Concise Oxford Dictionary* does not, and no small dictionary could, employ the elaborate phonetic system of the great *Oxford English Dictionary*. The editors of the former hold that "idea," once a trisyllable, rhyming with Judaea, Spiraea, and Dorothaea, is now, in actual use, a disyllable. Persons who have not troubled to consult the *Concise Oxford Dictionary* have rushed into print—where angels fear to tread—in support of "Scot" and defiance of facts: hence this plain statement.

This defence does not seem to be altogether satisfactory. "Idea" is a disyllable only in the mouths of the illiterate. "Idēēr," which the authors of the dictionary profess to regard as the usual pronunciation, may for all we know be the pronunciation "in actual use" at centres of culture like Oxford, or among those styled by Warburton the "better vulgar," who speak of doin', thinkin', and so forth. But it is offensive to educated ears. It reminds us of Uncle Ponderevo in Mr. H. G. Wells's *Tono-Bungay*: "I got an ideer."

At a meeting of the Paris Academy of Medicine held on May 21st, M. Thoinot presented on behalf of the author, Professor Rouxeau of Nantes, a copy of his work entitled *Laënnec before 1806*. The book is founded almost exclusively on unpublished documents in the possession of the Laënnec family. Professor Rouxeau confines himself to the early years of the discoverer of auscultation, tracing his career up to the age of 25. He shows how much Laënnec owed to his uncle, the good priest Guillaume Laënnec, who watched over him most carefully. It was not an easy task, for in addition to interference on the part of a selfish brother, young Laënnec had inherited from his father a somewhat frivolous character, with a tendency to dissipation and laziness. Every day the uncle had to fight against the lad's easy enthusiasm for everything that was new, especially if it was foreign to his studies—poetry, music, dancing, shooting, and all forms of bodily exercise. But happily, although the boy's head was somewhat light, his heart was good, and his affection for his uncle made him work. He went through his school with distinction, and entered the School of Medicine and the Military Hospital at Nantes before he had completed his 15th year. He continued his classical studies, while showing a decided bent for the study of anatomy, zoology, and clinical medicine. After studying medicine at Nantes for six years he got leave from his father to finish his professional education in Paris. There he worked so strenuously that he soon attracted the attention of his teachers and fellow students. His first essay was a discourse on peritonitis. He taught pathological anatomy to large classes during three years, and embodied the results of his researches in his *Traité d'anatomie pathologique*. His unceasing labours undermined his health, and the rest of his life was a struggle against suffering, which he bore with stoical fortitude.

The periodical entitled *Garden Cities and Town Planning*, published by Messrs. P. S. King and Son (May 15th), contains a considerable amount of information on the subject to which, as its name imports, it is devoted. The periodical, which is well printed and illustrated, will be welcome to all interested in social reform.

British Medical Journal.

SATURDAY, JUNE 8TH, 1912.

THE ANNUAL MEETING, LIVERPOOL, 1912.

THE Annual Meeting of the British Medical Association which is to take place in Liverpool next month will be the fourth held in that city. The medical profession in Liverpool has from the earliest days of the Association taken a lively interest in its welfare. The first elected Council of the Association contained the names of several distinguished Liverpool physicians and surgeons, and the seventh annual meeting of the Association was held in Liverpool in 1839. The second annual meeting in Liverpool took place in 1859 and the third in 1883.

As Mr. Bickerton has told us in the interesting articles published during the last six months, Liverpool does not boast a long history, and cannot compare in that respect or in antiquarian interest with its ancient neighbour Chester, of which Dr. Elliott this week gives some account, illustrated by photographs taken for the most part by himself. So intimately were the two places linked at one time that it was only in the middle of the seventeenth century that the jurisdiction of Chester officers ceased and that Liverpool became a free and independent port. Its prosperity was due in the first place to the West Indian trade, but its rapid growth dates from the second quarter of the nineteenth century, when trade with the North American continent began to develop by leaps and bounds. In this trade and in trade to the West Indies and West Africa the port still holds the lead. Though hard pressed by rivals both at home and abroad, competition has served only to stimulate the spirit of enterprise, and Liverpool has responded to every challenge by increasing its shipping facilities. The successful commerce of nearly two centuries has brought wealth in its train, and, though they possess no ancient monuments, its citizens have evolved a city adorned by many fine public buildings, and possessing a very distinct character of its own.

It is not only in commerce that Liverpool has shown foresight and enterprise. A love of culture and of science has grown with the growth of wealth, and the city has given not a few illustrious names to literature and science. Among many evidences of the respect for learning with which the citizens of Liverpool are imbued the most striking is the University, which, through their exertions, has been brought into existence, endowed, and provided with extensive buildings admirably adapted for their purpose. Remembering the many interests which Liverpool has in tropical and subtropical countries, it is very appropriate that one of the most complete and industrious departments of the University should be the School of Tropical Medicine. The workers engaged in it carry on their researches, not only within the walls of the University, but also on expeditions which the school has been enabled to send to investigate various tropical diseases in the localities in which they prevail.

In addition to the annual report of the Council, embodying an account of the work of the Association during the past year, and various recommendations transmitted by the Council from the standing committees, the Representative Body will doubtless have before it a special report setting out the position of the profession in respect of the insurance scheme. What that will be when the Annual Representative Meeting assembles on July 19th it is impossible at present to foresee, but it can hardly be doubted that by that time some progress will have been made in one direction or another, and that the Representative Meeting will have in its hands full materials for arriving at a decision on the various important questions which must arise.

The President, Sir James Barr, will be installed on Tuesday, July 23rd, and will deliver his presidential address on that evening. The Sections will begin their work on the following morning. The annual Address in Medicine will be delivered by Dr. George A. Gibson of Edinburgh on Wednesday, July 24th, and that in Surgery by Mr. F. T. Paul of Liverpool on July 25th. All the sections, which this year number twenty, will, through the courtesy of the Vice-Chancellor and Council, find meeting places within the University buildings. The general programme indicating the work which the various sections propose to do is again published in the SUPPLEMENT for this week, and in some instances we are enabled to give the authors' abstracts, indicating the line they propose to take in opening the discussions which will be held in the various sections. A glance at this document will show that the subjects chosen as ripe for discussion include most of those in which medical interest at the present day is greatest, either on account of the frequency of the condition to be considered or because new methods of investigation or treatment have been introduced. Thus we find that the Section of Medicine will consider the diagnosis and treatment of early cardiac complications of rheumatism, while the Section of Pathology will hold a discussion on Bright's disease, during which Sir Clifford Allbutt will deal with cardio-vascular changes. In the Section of Anaesthetics there will be a debate on anaesthesia produced by intravenous infusion, and another on methods for inducing anaesthesia and analgesia, in which special attention will be given to after-effects. The Section of Tropical Medicine will, appropriately, discuss the large and relatively new subject of human trypanosomiasis, including the question of the specificity of trypanosomes affecting human beings and the methods by which these parasites are transmitted to man.

In dealing with subjects on the borderland of two departments of medicine, the plan of holding joint meetings, which has been productive of interesting debates in the past, will be rather more extensively followed on this occasion; thus the Sections of Pathology and of Gynaecology and Obstetrics will combine for a debate on eclampsia, in which its etiology, its anatomy, and the application of recent research to treatment will be considered in introductory addresses dealing with these several aspects of the subject. The Section of Bacteriology will hold two joint discussions—one on *Bacillus coli*, its varieties, and the significance of their occurrence in water supplies, with the Section of State Medicine; and the other, on the standardization and control of vaccine, with the Section of Pharmacology. The Section of Anatomy will hold a joint discussion with the Section of Electro-Therapeutics on the normal stomach, while the Section of Laryngology and Rhinology will discuss the education of the specialist

in laryngology and otology in conjunction with the Section of the last-named subject. The Section of Medical Sociology proposes to combine with the Section of State Medicine and Industrial Diseases to discuss the administrative measures consequent upon the institution of compulsory notification of phthisis.

The Pathological Museum, which appears to grow in importance with each Annual Meeting, will on this occasion be displayed in the Engineering Laboratory of the University, a fireproof building in a central situation. This year the policy of arranging collections of specimens or apparatus having particular reference to discussions in the several sections will be continued and, apparently, extended.

As will be seen, the programme of business and science promises a very interesting week or ten days, all the working hours of which are likely to be fully occupied. But those who know Liverpool will feel sure that hospitality will be generously dispensed, and those who know the country within reach of the city, or who have read the short articles published in our columns during the last few months, will know that Liverpool, by its nearness to sea-coast golf courses and watering places, and its excellent means of communication with the mountains of Westmorland and Cumberland, and with those of North Wales, offers endless opportunities for shorter and longer excursions.

BIOLOGICAL VARIATION AS A FACTOR OF DISEASE.

ONE of the penalties which we have to pay for the benefits we receive from men of genius is a noticeable tendency to persist unduly in the line of thought and investigation to which we have been impelled by their discoveries. A certain "grooviness" is thus induced which leads us to overlook facts, however conspicuous and important, which are not readily explained by the light of what have become our dominant conceptions. It is thus that, as Mr. Hastings Gilford suggests in the article on "The Relations of Biology to Pathology" in our present issue, the epoch-making work of Pasteur and Lister may be held to have had a retarding as well as its acknowledged accelerating effect upon the progress of medical science. Matters pathological are thought about too exclusively in terms of bacteria and bacterial toxins, to the comparative neglect of those methods of research which are based upon more universal factors.

Mr. Bland-Sutton called attention in 1890[1] to the fact that many of the conditions and processes which, when met with in man, we rightly regard as pathological, are normal in other and lower species. Thus the phenomena of inflammation and leucocytosis may be paralleled by the processes culminating in the shedding of the milk teeth of puppies or the tails and gills of tadpoles. Exostoses identical with bony tumours of pathological origin are normal on the bones of the fish *Chaetodon*. The denudation and shedding of the antlers of deer afford a physiological analogue of the process by which a piece of bone, when deprived of its periosteal covering, is necrosed and extruded. The position of the foot and the relation of the articular surfaces which are normal in the adult orang are the same which, when they occur in human infants, constitute equino-varus.

The line of thought thus opened up by Mr. Bland-Sutton did not until recently receive the attention to which its importance and suggestiveness entitle it. For this temporary eclipse of the evolutionary aspect of pathology Mr. Hastings Gilford has, however, made amends by the recent publication of his work on *The Disorders of Post-Natal Growth and Development*,[2] in which the theory outlined by Mr. Gilford in his present article was set forth and explained with characteristic skill, and enforced by a wealth of striking instances.

In the first place the fact is emphasized that with regard to a large number of diseases the bacteriological explanation, if it has ever been seriously entertained as adequate, has more or less completely broken down. Among the examples given are arthritis deformans, cirrhosis of the liver, pernicious anaemia, leukaemia, Graves's disease, progressive muscular atrophy, osteomalacia, muscular dystrophy, cancer. It is not denied that in many of these conditions toxins, whether or not of bacterial origin, may play a part; but the question is raised whether such part is anything more than incidental or epiphenomenal. In comparison with the marshalled system of microbial diseases the above list may suggest a disconnected rabble. "Their anatomy is scientific but not their pathology." But on reconsideration we may find that the members of our non-microbial series have the common property of being diseases which still appear to be wholly or mainly of intrinsic as distinct from external or environmental origin. Or, as Mr. Gilford puts it, whereas microbial diseases are produced by contemporary causes, the non-microbial group are of prehistoric origin.

But while in all members of the non-microbial group the intrinsic factor predominates, in some (for example, cirrhosis, Graves's disease) we can, either invariably or in certain cases, recognize the potency of environmental determinants. Our group thus falls naturally into two main divisions—the wholly and the mainly intrinsic. Mr. Gilford, while regarding all the diseases of both divisions as of the nature of biological variations (substantive, not numerical), considers the purely intrinsic forms to be examples of major variation or mutation, and the others of minor or continuous (non-heritable) variation (fluctuation). From the Darwinian point of view it is axiomatic that variations may be advantageous or the reverse: the former tend to become fixed by natural selection and to enter the routine of normal development; the latter, though of analogous origin, having the weight of natural selection against them, will remain exceptional and be stigmatized as pathological. But, whether advantageous to survival or the reverse, it is only the major variations or, as de Vries calls them, the mutations, which are ever in the strict sense hereditary; the minor variations or fluctuations may appear spontaneously or in response to favouring conditions, but are in either case to be regarded as non-transmissible qualities.

The variations which are diseases consist, in Mr. Gilford's opinion, essentially in extremes. They may be positive or negative, manifesting themselves either in the form of an excess or a defect of growth or function on the part of either of the three components of man's tribasic constitution—cell elements, organs, or the individual as a whole. Among those regarded as mutations or major variations, which are of pronounced degree, spontaneous origin, and in some cases transmissible, he instances sporadic cretinism, achondroplasia, idiopathic pernicious anaemia, microcephaly, muscular dystrophy, hypertrophic cirrhosis of liver, osteitis deformans, and Friedreich's ataxia. Examples of the minor, continuous form of pathological variation, not always of

[1] *Evolution and Disease*, Contemporary Science Series.

[2] London. Adlard and Sons, 1911. Price, 15s. net.

purely spontaneous origin, and non-transmissible, are, he considers, endemic cretinism, rickets, atrophic cirrhosis of the liver, chlorosis, and those cases of pernicious anaemia, microcephaly, osteomalacia, and osteitis deformans in which environmental conditions have been contributory causes. In estimating the potency of the environmental factor, we must include not merely "those substances which, taken into the body, act inimically upon its constituents," but also those which, as the effect of depressing physical or psychical conditions—failure in business, disappointment in love, the shock of a railway accident, or local injury—are elaborated within it. For any such auto-intoxications, acting in conjunction with a latent variation, may set up a state of intrinsic secondary disease, such as Graves's disease or rheumatoid arthritis.

The sole criterion by which a given variation is assigned to the pathological rather than to the physiological category is that by disturbing the functional harmony it in some way handicaps the subject in the struggle for existence. Thus, assuming the correctness of Mr. Gilford's contention that the deformity of the dachshund is the result of the same variation as in human beings produces achondroplasia, it is obvious that, whereas the resulting condition by increasing the dog's value tends to the survival and perpetuation of its type, the reverse will be the case with similarly affected men or women. In a wild dog achondroplasia would be pathological, because it would handicap the subject in many ways. Diseases of this description, which, though biological in origin, become pathological in the event, are "examples of the way in which individual organs enter into a state of disease by falling short of or exceeding their normal growth, or by becoming stayed or unduly accelerated in their development."

Those which are progressive, consisting in an exaggeration of growth or development, or both, commonly arise out of a normal epochal spurt like that of the thyroid in adolescence or pregnancy, or that of the adipose tissues at the menopause, leading in the one case to Graves's disease, and in the other to obesity. But a process which begins as a mere hyperplasia may merge into degeneration, and thence into senilism and hypoplasia; or it may even pass the bounds of organic and enter the realm of cellular degeneration by becoming the seat of cancer. The complication of cirrhosis by primary cancer of the liver would be a case in point. "In an organ undergoing degeneration as a whole a more violent degeneration of certain individual cells may," says Mr. Gilford, "be started into action more readily than is usually the case." And it is a part of his hypothesis that by reverting to their primitive undifferentiated condition cells acquire that capacity for uncontrolled multiplication which is the characteristic of malignancy.

Mr. Gilford points out in his article that under the title of "arthritis deformans" two clinically distinct forms of degeneration of the joints are included: One which arises without ascertainable cause, and, as a rule, in early life; another in which, though the influence of a "cryptic element" may be detected, overwork, mental strain, bacterial intoxication, or senile decay, are common contributory causes. This is, in his view, a good example of the way in which similar pathological conditions may arise, in the one case as a true mutation, and in the other as a fluctuation. There are many other highly suggestive developments of Mr. Gilford's hypothesis in his book upon which we should have liked to have touched, in particular the section dealing with the group of diseases of which pernicious anaemia and leukaemia are prominent examples, and explaining the grounds of his belief in their neoplastic affinities. But our purpose will have been served if we have awakened a thirst for such full acquaintance with his views as can only be slaked at the fountain head.

A theory may be held to have justified its existence if it bring into even provisional unity a mass of hitherto unrelated and seemingly independent facts. For the establishment of an intelligible relation between many isolated facts, whereby they are rendered more assimilable, is not merely a gain to science but a pragmatic argument for the veracity of the theory which combines them. Whether or not, therefore, Mr. Gilford's views prove impregnable in their entirety—and their very breadth and audacity may tempt criticism—we have no hesitation in claiming for him the gratitude rightly due to all who plant the flag of science in regions previously the happy hunting ground of barren guesswork and groundless assumption.

THE EVOLUTION OF A QUACK MEDICINE.

What is the origin of the quack medicine? There is always, of course, a mystery about it which excites the faith of the believer in the marvellous. Either it is made of rare ingredients got from plants only found in the recesses of a trackless South American forest, or the secret of its composition has been learnt from a watcher at a sacred shrine in furthest Asia. Nowadays it is often stated that it is a product of a scientific laboratory, and it is not infrequently hinted that it is extracted from the organs of various animals which are credited with the regenerating properties of Medea's cauldron. Generally, however, the quack remedy has a humbler origin. It may be the cast-off slough of the snake which figures among the emblems of medicine; or it may be nothing more than what Charles Hare called a good remedy gone out of fashion, perhaps made milder and flavoured to suit the taste of a generation that has learnt to be dainty in its medicine as in everything else. James Gregory, whose name, like the good actions of the just, "smells sweet and blossoms" in his *pulvis rhei co.*, says with truth that even quack medicines are not in general bad *drugs*: "Many of them, no doubt, are insignificant, but many of them, as we have frequent opportunities of discovering by their characteristic effects, are just our own best-known and most active medicines given under new names and variously disguised. For example, aloe, jalap, antimony, mercury, arsenic, opium, and above all brandy. But these quack medicines, which a physician or surgeon who knew what they were might employ with safety and advantage, are every year pernicious to thousands by being rashly, indiscriminately, and improperly used. The case is just the same when the same powerful medicines, under their proper names, are employed by ignorant or negligent practitioners, though of the regular faculty."[1] The name is a powerful factor in the success of a quack medicine.

Then there is the power of advertisement, which is really that imperfectly understood force which we call suggestion. The art of advertising is by various devices to stamp a word, or combination of words, into the brain cells of as many people as possible. By most of them it will sooner or later be taken to represent a fact. A man so distinguished as Munsterberg has thought it worth while to discuss the application of

[1] *Memorial to the Managers of the Royal Infirmary*, MDCCC. Second edition. 1803.

psychology to advertisement.[2] He says that for the lack of psychological knowledge many hundreds of millions are probably wasted every year on advertisements that are unsuccessful because they do not appeal to the mind of the reader. The whole art seems to consist in finding out what will strike and stimulate the average person during a short exposure. Munsterberg has collected a large number of wrappings and packings in which industrial establishments sell their goods, and has received confidential information as to the success or failure of the various labels and pictures. It is found that, for instance, the same quality and kind of toilet soap, or chocolate, or breakfast food, that in one packing finds a rapid sale, in another remains a dead weight on the shelves. We gather that Munsterberg does not believe that advertisement has yet been developed into a fine art. He says: "What is needed is the introduction of systematic experiment which will cover the whole ground of display not only in pictures and texts but in the shop windows and the stores. The experiment may refer to the material itself. Before an advertisement is printed the arrangement of words, the kind of type, the whole setting of the contents, may be tested experimentally." We cannot help saying that the psychological laboratory seems to us hardly a proper place for the discovery of methods which are intended to gull the public or to help the credulous type of mind to gull itself. This, to speak plainly, is simply a prostitution of experimental psychology.

The psychology of the advertisement is well illustrated in Mr. H. G. Wells's amusing novel, *Tono-Bungay*.[3] The hero's uncle, a struggling chemist in a country town, always dreaming of making his fortune, suddenly beams upon the world with a new advertisement on the hoardings:

THE SECRET OF VIGOUR,
TONO-BUNGAY.

"That was all. It was simple and yet in some way arresting. I found myself repeating the word after I had passed. It roused one's attention like the sound of distant guns. 'Tono'—what's that? And deep, rich, unhurrying:—'*Bun*-gay.'" In reply to his uncle's invitation, the hero calls and finds him in a shop the windows of which were covered with the same advertisement. The floor was covered by street mud that had been brought in on dirty boots, and three energetic young men of the hooligan type in neck wraps and caps were packing wooden cases with papered up bottles, amidst much straw and confusion. The counter was littered with these same swathed bottles of a pattern then novel, but now amazingly familiar in the world, the blue paper with the coruscating figure of a genially nude giant and the printed directions of how under practically all circumstances to take Tono-Bungay. There is an inner office through the glass door of which can be seen dimly "a crowded suggestion of crucibles and glass retorts"—the usual paraphernalia, in short, of the modern alchemist who makes the panaceas that are to cure all our ills. On the hero asking what Tono-Bungay is, the reply after some hesitation was, "It's the secret of vigour," and it was described as "selling like hot cakes." The fortunate inventor describes it, but the narrator has a scruple about revealing its composition, as he says it is still a marketable commodity. All that we are allowed to know may be gathered from the following.

"'You see,' said my uncle in a slow confidential whisper, with eyes very wide and a creased forehead, 'it's nice because of the' (here he mentioned a flavouring matter and an aromatic spirit), 'it's stimulating because of' (here he mentioned two very vivid tonics, one with a marked action on the kidney). 'And the' (here he mentioned two other ingredients) 'makes it pretty intoxicating. Cocks their tails. Then there's' (but I touch on the essential secret). 'And there you are. I got it out of an old book of recipes—all except the' (here he mentioned the more virulent substance, the one that assails the kidneys), 'which is my idea. Modern touch! There you are!'" The hero frankly describes it as a damned swindle, whereto the uncle replies, "It's as straight as ——; it's fair trading." He adds: "It's the sort of thing everybody does. After all, there's no harm in the stuff, and it may do good. It might do a lot of good—giving people confidence, f'rinstance, against an epidemic." To further objections he replies; "There's Faith. You put Faith in 'em. . . . I grant our labels are a bit emphatic. Christian Science really. No good setting people against the medicine. . . . the world lives on trade." On the nephew protesting that some businesses are straight and quiet, and urging that one should supply a sound article that is really needed and not shout advertisements, he is told that he is behind the times. Scientific research is pleaded, and at once the answer is that it is the enterprising business men who pay for that. "They fancy they'll have a bit of science going on, they want a handy expert ever and again, and there you are! And what do you get for research when you have done it? Just a bare living and no outlook. They just keep you to make discoveries, and if they fancy they'll use 'em they do."

The hero is left to think out the proposal, and one can follow his mental and moral struggles. From first to last he saw the business with his eyes open as a thoroughly dishonest proceeding. The stuff was, he perceived, a mischievous trash, slightly stimulating, aromatic, and attractive, likely to become a bad habit and train people in the habitual use of stronger tonics, and insidiously dangerous to people with defective kidneys. It would cost about sevenpence the large bottle to make, including bottling, and the vendors were to sell it at half a crown, *plus* the cost of the patent medicine stamp. However, his eye catching advertisements of "Sorber's Food" and "Cracknell's Ferric Wine," and the reflection coming to him that Cracknell himself sat in the House, he began to hesitate. Tono-Bungay itself shouted at him from many hoardings, till it began to have the air of being something more than a dream. He thought that after all trade rules the world, and that his uncle's proposition that the quickest way to get wealth is to sell the cheapest thing possible in the dearest bottle, was true. The end naturally was that he threw himself into the business and helped to make Tono-Bungay "hum." It brought them wealth, influence, respect, the confidence of endless people. The uncle was a genius in the concoction of advertisements. "Many people who are MODERATELY well, think they are QUITE well," was one of his early efforts. Then: "Do not need drugs or medicine," and "Simply a proper regimen to get you in tone." People were warned against the chemist or druggist who pushed much advertised nostrums on their attention. That trash, it was said, did more harm than good. The thing needed was regimen, and "Tono-Bungay."

"Regimen" is to the millions—mostly fools—who read the advertisements in the papers like that "blessed word Mesopotamia" in the sermon which brought such comfort to the old lady.

[2] *Problems of To-day from the Point of View of a Psychologist*. By Hugo Munsterberg. London: T. Fisher Unwin, Adelphi Terrace. Leipzig: Inselstrasse 20. MCMX.
[3] Macmillan and Co., Limited, London, 1909.

Various other specimens of advertisements are given. They were cleverly adapted to catch different classes and to make special appeal to the population of different places. The health-giving properties of "Tono-Bungay" were gradually announced in the middle-class London suburbs, then in the outer suburbs of London, then in the home counties, "then going (with new bills and a more pious style of ad.) into Wales, a great field always for a new patent medicine, and then into Lancashire." It is a fact that quack medicines have more vogue among Nonconformists than among sects of a different theological shade. This is reflected in the religious newspapers. The Free Churchman likes to show his independence of authority and discipline by flouting the medical profession. In due course the thing was changed into a company. The inventor of Tono-Bungay asked for £150,000, and among the partners were the drug wholesalers, the printing people, and the owner of a group of magazines and newspapers. "£150,000, think of it! For the goodwill in a string of lies and a trade in bottles of mitigated water. Do you realize the madness of the world that sanctions such a thing? Perhaps you don't. At times use and wont certainly blinded me."

A character in the book makes the following pregnant remark: "Think of the people to whom your bottles of footle go. Think of the little clerks, and jaded women, and overworked people. People overstrained with wanting to do. People overstrained with wanting to be. . . . People, in fact, overstrained. . . . The real trouble of life isn't that we exist. That's a vulgar error. The real trouble is that we don't really exist, and we want to. That's what this—in the highest sense—muck stands for. The hunger to be, for once, really alive to the fingertips." This explains the readiness of these poor people to catch at anything that promises to give them what they want. The same philosopher says, "Advertisement has revolutionized trade and industry. It is going to revolutionize the world. The old merchant used to tote about commodities. The new one creates values. Doesn't need to tote. He takes something that isn't worth anything, or something that isn't particularly worth anything, and he makes it worth something. He takes mustard that is just like anybody else's mustard, and he goes about saying, shouting, singing, chalking on walls, writing inside people's books, putting it everywhere, 'Smith's mustard is the best,' and behold it *is* the best." We need not follow the development of the business and the expansion of Ponderevo into a financier of the largest and wildest schemes and his final collapse. But his "Tono-Bungay" remained after the crash—a sad testimony to the imbecility of mankind.

We commend Mr. Wells's book to those of our readers who may not yet have perused it as the clearest exposition of the mechanism of the quack medicine business and of the advertising that supplies the motor power with which we are acquainted. It is a compendium of the philosophy of quackery.

THE SUPPLEMENTARY PLEDGE.

A MEETING of the joint committee of the licensing corporations and universities in England, appointed to watch the interests of the medical profession in regard to the Insurance Act, was held last week, at which the position of the profession in relation to the insurance scheme was discussed. The question of the supplementary pledge issued by the British Medical Association was raised, and it was resolved to call a meeting of the medical staffs of all the London hospitals at an early date. The meeting will be held at the new house of the Royal Society of Medicine, 1, Wimpole Street, on Friday, June 14th. The Marylebone Provisional Medical Committee will shortly send out to all the medical practitioners resident in Marylebone, over a thousand in number, the supplementary pledge issued by the British Medical Association, with a covering letter commending it to them and urging the claims of the Guarantee Fund. The hesitation of the members of the medical and surgical staffs of some hospitals to sign the supplementary pledge without giving the matter very full consideration and weighing the effect of signing on their relations with the governing bodies of the hospitals is no doubt comprehensible, and some individual members have, we believe, thought that they were under a certain obligation to consult the Royal Colleges before doing so, believing that by this course unanimous action would be better assured. The medical and surgical staffs of some of the largest hospitals in provincial centres have seen their way at once to sign the pledge, and are, we understand, confident that their influence with the public and with the governing bodies of their hospitals is sufficiently strong to ensure their action being upheld. As there seems to have been some misapprehension on the point, it may be pointed out that the supplementary pledge was drawn so as to embrace general practitioners, whether engaged in contract practice or not, as well as members of hospital staffs, but that it is practically only the third paragraph which applies to the latter. As is specifically stated, the first paragraph deals wholly with contract practice, and the resignation to be placed in the hands of the secretary of the Provisional Medical Committee of the area in which the signatory practises is the resignation of club, friendly society, dispensary, and other forms of contributory contract practice. The second paragraph contains an undertaking not to accept any such appointment so resigned. The pledge contains no undertaking to resign a hospital appointment, but it is clear that the whole object of the pledge to resign contract appointments would be frustrated if the Insurance authorities were in a position to exploit out-patient departments of hospitals for the purpose of bringing medical benefit into force, to the detriment of general practitioners who had resigned their contract appointments. The view which the State Sickness Insurance Committee has taken is shown in the letter sent to the Chairman of the Marylebone Division, as reproduced in the report of the eleventh meeting of the Committee, published at p. 1329. It should be noted that the pledge as to voluntary medical charities applies to medical benefit which cannot come into operation before January, 1913, and that if it should then be necessary to put the pledge into action, it would not operate to prevent co-operation with any member of the profession in any case in which the well-being of the patient might be seriously endangered; the interpretation of "urgent necessity" is a matter for the discretion of the individual practitioner. It would appear to be necessary to insist a little on the date, as there seems to be some misapprehension with regard to it. No pledge will come into operation until medical benefit comes into operation, and that will not be for another seven months. Much water will have flowed under Westminster Bridge in that time. The whole object of the pledge is to make plain the solidarity which really exists within the profession in its resistance to the imposition of conditions which will prevent it from efficiently discharging the duty it owes to the nation. It is a question for every man to decide for himself, but if disposed to place first an official obligation to the governing body of a hospital, he may well be asked carefully to consider whether through the bias of custom and habit he is not putting the lesser above the greater and more sacred obligation. A member of the staff of one of the large teaching hospitals in London has written to us to suggest that the business of

the meeting on June 14th would be facilitated if an endeavour were made beforehand at each hospital to obtain the signature of every member of the medical and surgical staff to one of two declarations—either that every member of the medical and surgical staff is prepared to sign the pledge; or, that if the majority of his colleagues are willing to sign, each member of the medical and surgical staff is prepared to sign it. Our correspondent suggests that the result should be placed in the hands of a member of the staff of each hospital who will undertake to attend the meeting, and should be sent also to the chairman of the meeting. He goes on to say that at this crisis unity is strength, and that if one of these declarations be signed by all the hospital doctors, "a great blow will be struck for the liberty of the profession and the welfare of humanity, both gravely threatened by the present Insurance Act." A correspondent who resides in a country town asks us to point out to members of Provisional Medical Committees the importance of seeing personally all medical men who have not yet signed the pledge. He tells us that one day last week he called upon three medical men, and found that in each case the pledge paper had gone unsigned into the waste paper basket, because each thought that as he held no club appointments there was no need for him to sign it. When the matter was explained to them they all readily signed.

THE ATTITUDE OF FRIENDLY SOCIETIES.

AT a Whitsuntide conference of the Manchester Unity of Oddfellows—probably the most powerful of the friendly societies—the Grand Master made use of the following words, reproduced textually in the SUPPLEMENT last week, with regard to the medical profession: "They should consider that they are a protected class—protected by charter confirmed by Parliament—but that which Parliament gives Parliament can take away, and the friendly societies and all other working-class organizations should stand shoulder to shoulder and demand the abolition of the privilege possessed by the doctors, if the doctors are determined to abuse that privilege." To the threat conveyed no great importance need be attached, nor need we comment upon the inaccuracy of the statement about the legal status of the profession. But what seems of more serious significance is the attitude of mind disclosed towards the question of due qualification. It is difficult to place any other interpretation upon the words reported than that the speaker did not attach a very high value to qualification, and that, under certain circumstances, he would be prepared, on behalf of the friendly societies, to accept unqualified medical service. For in no other way could the removal of the "protection" accorded to the profession affect the question, albeit that the preamble of the Medical Act sets forth very plainly that its object is to protect the public so "that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners" and not to protect the profession. It is just this want of appreciation of the services which the highly-educated medical man is able to give to his patient, and which no one less well equipped can give, which renders satisfactory arrangements with the friendly societies difficult.

THE TRANSFERABLE VOTE AND THE ELECTION TO THE CENTRAL COUNCIL.

THE Annual Representative Meeting at Birmingham last year decided that the transferable vote system should be used in the election of certain officers and representatives, and the method will be used in the election of members of the Central Council by the Branches which takes place next week. The voting papers will be sent out on Saturday, June 8th, to members of all Branches in which the election to the Central Council is contested, and ought, therefore, to be received soon after this copy of the JOURNAL. The voter should number the names of the candidates in the order he prefers, putting 1 to his first choice, 2 to his second choice, 3 to his third, and so on. The voting paper should then be signed and returned to the Financial Secretary, British Medical Association, 429, Strand, London, W.C., not later than June 15th. The system of the transferable vote is a form of proportional representation designed to safeguard the interests of minorities, to ensure that the opinions of the electorate shall be reflected in due proportion in the opinions of the members elected, and to prevent "plumping" from vitiating the results. It is sometimes supposed that the method is highly complicated, but in reality this is not so; the only additional labour involved is the distribution of what are called "surplus" votes, according to the desires of the voters. Let it be assumed for purposes of illustration that five seats have to be filled. Each voter indicates on the paper the member he wishes to be returned first by marking the figure 1 against that name; it is found that more votes than are necessary to secure a seat have been received by one or more candidates. In the example any candidate who has obtained one-sixth of the total number of votes and one additional vote is elected, since the remaining number of votes after five candidates have secured $\frac{1}{6} + 1$ apiece is $\frac{1}{6} - 5$. The right of the voter to record the name of the candidate to whom he would give his vote if his first choice has more votes than are required to elect him now comes into play. He can signify his second, third, fourth, fifth, and subsequent choices by placing the numbers against the names on the paper. But he need not do so. Let us assume in the case supposed that A. has secured 2,501 first choice votes out of a total of 6,000 votes. As 1,001 votes would elect him he has 1,500 surplus votes. These surplus votes will be distributed or "transferred." Let it further be assumed that B. has 1,300 votes, which will allow of his election and 299 votes to be transferred. It must now be determined which of A.'s total number of votes would go to C., D., E., etc., and in this proportion, the 1,500 surplus votes are distributed to the various candidates. Votes are not transferred to a candidate already elected, and in the case of a second choice being already elected the third or subsequent choices are taken instead. The same is done with B.'s surplus votes. In the case of those voting papers on which no second choice is recorded the vote is regarded as a non-transferred vote. If a large proportion of the votes are given without a second choice it might be necessary to waste some votes—that is, not to transfer all the surplus votes to second or subsequent choices—but this has not been found to occur in practice. The majority of voters make a second and third selection. The effect of voting for A. only would not be to give A. any further advantage over the other candidates. It would merely enable the other candidates to secure a seat with a smaller number of votes. After A.'s and B.'s surplus votes have been distributed, the surplus votes of any candidate, who in consequence of the transference of A.'s and B.'s surplus votes has received over 1,001 votes, are distributed in the same way. When all this has been done, the votes of the candidates at the lower end of the poll are distributed, for at this stage no amount of transferring can bring these candidates into the position of being returned. The method has been used with satisfactory results in the past by the Metropolitan Counties Branch.

RICHELIEU FROM A MEDICAL POINT OF VIEW.

THERE can be no doubt that the great historical novelists have much to answer for. Mankind, as a rule, prefers to learn its history from novels, as Marlborough learnt his from Shakespeare, and most people are content to accept

without comment whatever is offered them in so easy and pleasant a form. Few of Thackeray's admirers, for example, either know or care that the James Stuart who figures in *Esmond* is ludicrously unlike the grave and pious husband of Clementina Sobieski; and just as Scott's marvellous portrait of Louis XI will live for ever, despite the attempts of modern historians to whitewash that monarch, so Dumas's conception of the mind and character of Richelieu will probably go down to posterity as a lifelike study of a wonderfully complex nature. Certainly no reader of *The Three Musketeers* is ever likely to forget the terrible picture of the great churchman who for a few years held France in the hollow of his hand; and yet the real man was a vastly different being from the implacable enemy of the gallant d'Artagnan and his companions. Dr. Cabanès, who has contributed an interesting article on the private life of the Cardinal to the May number of *L'Hygiène*, shows that this man, before whom even his own sovereign trembled, was little better than a chronic invalid, worn out with constant pain, and so racked by suffering that he was obliged to transform his medical attendants into secretaries in order that even whilst transacting affairs of State he might have the means of relief close at hand. No man, it has been cynically said, is a hero to his valet; that, as Carlyle pointed out, is the fault of the valet rather than of the hero. But it is hard, indeed, for a man to be a hero to his doctors, and it is a striking testimony to the greatness of Richelieu that it is enhanced by the evidence of his medical attendants. His infirmities were so carefully concealed from the outside world that few beyond those immediately about his person guessed the reason of his fits of melancholy, his nightmares and insomnia, and the gloomy preoccupation which set him so completely apart from the rest of his contemporaries. What was put down by his enemies to the gnawings of a guilty conscience was in reality the effect of a deep-seated disease, and it was only an iron will and extraordinary powers of self-control that enabled Richelieu to rise superior to the weakness of the flesh and retain his place at the head of the State. According to Dr. Cabanès, his symptoms prove him to have been suffering from tuberculosis, the condition being aggravated by his natural tendency to gout. His ill health seems to have begun in early youth, and his life was literally made a burden to him by constant violent headaches and attacks of fever, and the existence of haemorrhoids and abscesses which in later life made either walking or driving a veritable torture. The fever and headaches were almost continual, one returning as regularly as the other left him. The beginning of the end was ushered in by an outbreak of abscesses on the right arm, which occurred in 1642, and from the effects of which he never fully recovered. But pain and weakness had no power to damp his energy or courage; and his appetite for work remained so insatiable that he read or dictated letters even whilst his wounds were being dressed by his medical attendants. He died at the age of 57, having suffered many things from many physicians. The *post-mortem* examination revealed a purulent effusion in the lower part of the thoracic cavity, on the surface of the diaphragm. Richelieu is a striking example of the part played by invalids in the making of history. His manifold infirmities would have made most men give up all attempt at work, and spend their lives in attention to their diseases. Richelieu struggled on to the end, ever busy with problems of State.

NEO-SALVARSAN.

Some two years have passed since the first report on salvarsan was published by Alt, and since that time Ehrlich has been experimenting continuously to find an improved form of this medicament. E. Schreiber[1] now reports on a substitution product of salvarsan which bears the number of 914 in Ehrlich's laboratories. This is *neo-salvarsan*. It is a condensation product of formaldehyde sulphoxylate of sodium and salvarsan. The former is anchored to one of the two amido groups of the arsenobenzol. The compound is a yellowish powder freely soluble in water, yielding a neutral solution, which is easily made: sterilized distilled water at about 20° C. is added to the powder, and the vessel containing it is then gently swayed once or twice; violent shaking must be avoided, as this oxydises the drug. If saline solution is used this must not be stronger than 0.4 per cent., since a turbidity is formed with stronger solutions. An isotonic solution can be prepared by dissolving 0.8 gram in 22 c.cm. of water, but Schreiber prefers from 0.6 to 1.5 grams dissolved in from 200 to 250 c.cm. of water. Since the formaldehyde sulphoxylate is approximately one-third of the compound, the dose of neo-salvarsan must be 1.5 grams, to correspond to 1 gram of salvarsan. On the other hand, it has been found that rabbits tolerate nearly three times the dose of neo-salvarsan, and it is also less toxic for mice. Mice infected with the spirilla of relapsing fever and the spirochaetes of *nagana* were treated with neo-salvarsan, and it was found that the new preparation was more active toward these organisms than salvarsan. Schreiber has tried the compound on 230 patients, and has given some 1,200 injections, some intravenously and some intramuscularly. He gives doses of 1.5 grams to men and 1.2 grams to women, but usually begins with a smaller dose and increases it at each injection. The dose, however, must be varied with the constitution of the patient. The therapeutic effects appear to be the same as those of salvarsan, but he is under the impression that the new compound is more active, and that undesirable effects occur less frequently than with salvarsan. While the latter frequently causes gastric disturbances (vomiting, etc.), these symptoms were scarcely ever seen after the use of neo-salvarsan. The fact that the solution has a neutral reaction is a great advantage, inasmuch as no troublesome local infiltration occurs after injection. Albuminuria was not met with, although at times urobilin was found in the urine. A moderate leucocytosis occurred in certain cases. Of 97 of the patients in whom Wassermann's reaction was controlled, 61 showed a negative test after the injection, and 36 a positive one. He adds that these cases included some early patients, in whom the doses were too small. Owing to the neutral reaction intramuscular injections may be given, provided the solution is really injected into the muscle. He prefers intravenous injections. In summing up the results of his experience of Ehrlich's latest remedy, he points out that it can be tolerated in larger doses than salvarsan, that it is at least as active an agent, and that it is better adapted to intramuscular injections than salvarsan.

[1] *Muench. med. Woch.*, April 23rd, 1912.

MEDICAL INSPECTION OF SCHOOLS IN FRANCE.

The first congress of French-speaking medical inspectors of schools will be held in Paris on June 20th and two following days. One of the communications to be made to the congress is a report by Drs. Doizy and Gourichon on the organization of medical school inspection in France. The *Semaine Médicale* has recently published a report presented by Dr. Doizy to the Chamber of Deputies on June 30th, 1911, on the same subject. In it the history of medical inspection at schools is reviewed. Dr. Doizy traces its beginning to the Revolution. On June 26th, 1793, Lakanal presented to the Convention, in the name of a committee specially appointed to that end, a scheme for the establishment of public instruction. In that scheme it was provided that an *officier de santé* of the district was to visit in the four seasons of the year all the national schools of the district to examine the children and lay down general and special rules for the maintenance of their health. Many similar projects were brought

forward during the same period, but we gather that in all of them the aim was physical culture with the object of producing useful citizens. One enthusiast said that "excepting persons whose organs had been disturbed by some accident, there was no individual of the human species of whom one could not make a man by going the right way about it." By this he meant physical education, good health being the basis of all the rest. Similar views were expressed by others, all laying stress on physical exercise and the careful regulation of sleep, meals, work, and recreation. The Convention had, however, other business in hand than the safeguarding of the health of children, and none of these proposals became law. With the creation of the university the doctor of the *lycée* came on the scene. In a thesis presented to the Paris Faculty in 1830 Bourjot set forth the services that could be rendered by a doctor in such institutions, and suggested that the family and personal history of each pupil and his state of health as ascertained by quarterly examination should be entered on a register. On April 16th, 1834, Orfila, Vice-President of the Central Committee of Primary Inspection in the City of Paris, sketched out the medical inspection of schools, attaching a doctor to each school for boys, and making it compulsory that he should pay two monthly visits. Two decrees of December 20th, 1842, and May 19th, 1843, established a medical supervision over all public and private primary schools of Paris, ordering a weekly visit, the individual examination of each new pupil on admission, his vaccination, and the elimination of all contagious cases. But no funds were voted; inspection was gratuitous and voluntary, and was not carried out. In 1864 Duruy, Minister of Public Instruction, established a central commission, whose duty it was to advise on all questions of feeding, dress, hygiene, and gymnastics in regard to *lycées*. On June 13th, 1879, the Municipal Council of Paris organized medical inspection, and a few months later Jules Ferry, then Minister of Public Instruction, addressed a circular to all prefects inviting them to create a service of medical inspection throughout the whole of France. This circular contains the germ of the system of medical inspection to which the law of October 30th, 1886, gave legal sanction. In 1893 various decrees were passed and circulars were issued pointing out the measures to be taken in case of epidemic, the duration of exclusion as regards contagious diseases, and insisting on certain hygienic measures. From all this it might be thought that there was no need for further legislation, but all these enactments remained a dead letter. The pay was miserable, and these appointments were left to political wire-pullers. In 1904, 1905, 1907, and 1908, M. Vaillant strove hard to get the law enforced; at last, after a long period of ministerial shuffling and evasion, the Government, on March 23rd, 1910, introduced a bill into the Chamber of Deputies. Again, the game of battledore and shuttlecock was played between Ministers and Commissions, but finally definite recommendations were made, and now the city of Paris has a well-equipped modern service. Other cities have led the way in the matter. Algiers was the first place under the French Government to organize the medical inspection of schools. A system was established in 1871; since then the service has been greatly improved, and now 15,000 children are inspected annually. The town is divided into sections, to each of which there is appointed a doctor, who pays a monthly visit, and in addition examines twice a week pupils found suspect by the master when examined for cleanliness. A form is then given to the child indicating whether he is ill or not. In the former case the child is either looked after by the family doctor, who countersigns the form and states that the child is receiving regular attention, or, if indigent, he is looked after by the medical inspector and the dressings made by an infirmarian specially attached to the service. There is a laboratory for microscopic examination, and cases of parasitic disease are forthwith excluded. Since 1892 revaccinations are carried out. Every month a list of the pupils suffering from contagious diseases is sent to all the schools to ensure that a child may not, by changing its school, disseminate the contagion. Eye diseases are particularly looked after. Lastly, the medical inspectors control the hygiene of the buildings, make a special report on all urgent cases, set down detailed observations in the visit book special to each school, and present a final report at the end of the year. At Havre medical inspection has existed for thirty years. One of the municipal regulations is that the doctors appointed shall visit the schools and communal refuges at least once a month, and oftener, when cases of contagion are reported to them. They must satisfy themselves that all the children are vaccinated, watch cases of contagious diseases of the skin, the scalp, and the eyes, order the exclusion of pupils who might infect the school, and make a monthly report to the mayor embodying their observations and proposals. At Lyons inspection has existed since 1880. In the Gironde there is a service which works very well. The schools of Bordeaux are visited monthly. In other towns (Tourcoing, Nantes, etc.) there are inspection services which Dr. Doizy considers satisfactory.

SIR CHARLES BELL AND WATERLOO.

SIR CHARLES BELL, as is recorded in his *Letters*, seized the opportunity of studying gunshot wounds after the battle of Waterloo. For three days he operated on the French soldiers in their hospital, taking the knife in his hand at six o'clock in the morning and continuing at work till seven in the evening. He says: "All the decencies of performing surgical operations were soon neglected. While I amputated one man's thigh there lay at one time thirteen all beseeching to be taken next, one full of entreaty, one calling upon me to remember my promise to take him, another execrating. It was a strange thing to feel my clothes stiff with blood, and my arms powerless with the exertion of using the knife! and more extraordinary still, to find my mind calm amidst such variety of suffering; but to give one of these objects access to your feelings was to allow yourself to be unmanned for the performance of a duty. It was less painful to look upon the whole than to contemplate one object." Bell made sketches of the wounded of wonderful power and effect, afterwards reproduced in water-colours. Many of these sketches, together with some in oil, were placed in the Museum of the Royal College of Surgeons of Edinburgh, and Lady Bell presented seventeen others, together with her husband's notebook, to the Royal Hospital, Netley, in 1867. Bell visited the field of battle, and his record of what he saw is cited by Dr. W. H. Fitchett in an article entitled "One of the Puzzles of Waterloo," which is published in the current number of the *Cornhill Magazine*. The "puzzle" is as to a scaffolding used by Napoleon, which is represented in a rough painting, but of which Dr. Fitchett has been unable to find mention elsewhere. He therefore dismissed the evidence of this picture as unhistorical till he was confronted with Bell's statement that he had actually climbed some way up to the first platform. He says: "The view was magnificent. I was only one-third up the machine, yet it was a giddy height. Here Buonaparte stood surveying the field." The machine had been placed on the side of the road, but Napoleon ordered it to be shifted, an example, says Bell, of "the power of confidence and resolution of the man." Bell, although he hated the tyrant, was filled with admiration of "a man of his habit of body, who could stand perched on a height of 65 ft. above everything, and contemplate, see, and manage such a scene." Dr. Fitchett wonders whether he did climb it, or whether it was used as the perch of an outlook. He is also puzzled as to where it came from, and how it has dropped so completely out of history. We are inclined to share his doubt whether

Napoleon did climb the scaffolding; at Waterloo the bodily energy he had displayed in so many previous battles was to a large extent lost. Many witnesses describe him as sitting for hours in front of a table, sometimes with his head fallen forward, fast asleep. But clearly there was a scaffolding which Bell believed Napoleon had climbed. Dr. Fitchett is anxious to have the mystery cleared up. Can any reader help him?

DISCUSSIONS AT THE ROYAL SOCIETY OF MEDICINE.

On Monday next, at 4 p.m., a discussion on syphilis will be opened by Dr. Norman Moore, Dr. F. W. Mott, F.R.S., and Mr. D'Arcy Power. The subject will be dealt with under the following heads: (*a*) Its prevalence and intensity in the past and at the present day; (*b*) its relation to public health, including congenital syphilis; (*c*) its treatment. The discussion will be continued on Monday, June 17th, and Monday, June 24th, at 5 p.m. on each day. Among those who intend to take part in the discussion are Mr. Ernest Lane, Mr. Jonathan Hutchinson, Mr. J. E. R. McDonagh, Mr. Macleod Yearsley, Dr. G. Pernet, Mr. H. W. Bayly, Major H. C. French, R.A.M.C., Mr. C. F. Marshall, Sir George Savage, Mr. Campbell Williams, Dr. Douglas White, Dr. F. E. Fremantle, and Dr. H. R. Dean. The debate will be wound up by the President, Sir Henry Morris, Bart. These meetings will be held in the society's new house, 1, Wimpole Street, W. We are also asked to remind fellows and members of the society that the summer meeting of the Otological Section takes place in Manchester this day, Saturday, June 8th, under the presidency of Dr. William Milligan.

We regret to announce the death of Sir Thornley Stoker of Dublin on June 1st, and hope to publish an obituary notice in a subsequent issue.

General Medical Council.

NOTES.

So far as can be judged from the programme of business the session of the Council which commenced on Tuesday does not appear likely to be lengthy.

New Members.—There has been a considerable infusion of new blood. Dr. Lorrain Smith replaces the late Dr. Dixon Mann as representative of the University of Manchester; Dr. Gibson Sir John Batty Tuke as representative of the Royal College of Physicians of Edinburgh, and Dr. Cash Dr. Finlay as representative of the University of Aberdeen; the University of Wales is represented (for the first time) in the person of Dr. Hepburn; and Mr. Verrall, well known in the counsels of the Association, takes his seat as an additional direct representative.

President's Address.—The President, in his introductory address, which is published in full in the SUPPLEMENT, touched upon some points which will not come before the Council in the course of its business. Amongst them was an explanation of the reasons why the invitation of the Insurance Commissioners to the Council to meet them at a conference had not been acceded to. He stated that some of the points raised by the Council's Insurance Bill Committee had been met by the Government, and in the intervals between the sessions no one could be deputed to speak in the name of the Council, if indeed any one could be so deputed at any time. He mentioned also that the unification of the Canadian provinces in respect to medical registration, a reform for which Dr. Roddick has long been working, was now all but accomplished, and that it would soon be possible for the Council to deal with Canada as a whole in the matter of reciprocal recognition of medical qualifications instead of, as heretofore, with individual provinces. The solicitor to the Council, Mr. Harper, has completed a full abstract of the cases which have come before the courts. This volume, which it is intended shortly to issue, will be of the greatest value not only to the members of the Council, but to the whole profession, as well as to all those in any way concerned with the conduct of disciplinary cases.

The Insurance Act.—The reference to the Insurance Bill Committee having been brought to an end by the passage of the Act, a new Committee was appointed to watch the effects of the Act and the administrative regulations to be framed by the Insurance Commissioners. It was pointed out that the operation of the Act would probably have an influence upon medical education. The number of clinical cases might perhaps be diminished, and lying-in hospitals, such as the Rotunda in Dublin, might be starved of patients by a sort of premium being offered to those women who did not enter them. The new Committee consists of many of the old committee, with a few additions, making in all fourteen—perhaps rather too large a number for convenience. It was instructed to report to the Council, but was empowered also to make representations to the authorities. The members are: The President (Chairman), Dr. Norman Moore, Dr. Saundby, Sir Francis Champneys, Dr. Langley Browne, Dr. Latimer, Mr. Hodsdon, Dr. Mackay, Sir David McVail, Dr. Norman Walker, Sir Arthur Chance, Sir Charles Ball, and Dr. Kidd.

The Home Rule Bill.—A motion was proposed by Sir Charles Ball, and adopted *nemine contradicente*, which had for its object the insertion into the Home Rule Bill of provisions laying down that legislation relating to the Medical Acts and the Dentists' Act should be reserved to the Imperial Parliament and should be withdrawn from the purview of the Irish Parliament, a course already adopted with sundry other legislative matters. The President was requested to communicate the resolution to the Privy Council. Many inconveniences, not the least of which would fall upon Ireland itself, would follow were there any distinctions made between the conditions obtaining in Great Britain and in Ireland.

The Sandow Institute.—The case of Mr. J. Robertson Wallace, M.B., M.S., was again considered by the Council and finally decided. In this case the complainant was the British Medical Association, and the charge was that Mr. Wallace has associated himself in his professional capacity with the Sandow Curative Institute, which systematically advertised for the purpose of procuring patients to receive treatment for disease under the personal direction of Eugen Sandow, who is not a registered medical practitioner, and that Mr. Wallace had approved and acquiesced in such advertising. The case was first considered by the Council a year ago, when it found that the facts alleged had been proved, but postponed judgement in order to give Mr. Wallace an opportunity of reconsidering his position. The case next came before the Council in November, 1911, when it was stated on respondent's behalf that advertising had completely ceased. The Council, however, was not satisfied, but again postponed judgment in order to afford Mr. Wallace a further opportunity of producing satisfactory evidence regarding his professional conduct; thereafter advertisements were resumed. On this occasion the respondent adduced no further evidence, and the Council directed that his name should be erased from the *Medical Register*.

Election of Committees.—The business ready for disposal having been got through earlier than usual, several of the committees were elected on the first day of the session. Little change was made in the membership of any of them, except when an actual vacancy had occurred. The election to the Education, Examination, and Public Health Committees is by nomination by the English, Scottish, and Irish Branches, which had not then met.

Dinner to the President.—The members of the Council entertained their President at a complimentary dinner at the Trocadero Restaurant on Tuesday evening in recognition of his able conduct of its affairs.

THE INSURANCE SCHEME.

STATE SICKNESS INSURANCE COMMITTEE.

Eleventh Meeting.

THE eleventh meeting of the State Sickness Insurance Committee was held on May 30th.

Mr. T. JENNER VERRALL was in the chair, and the members present were: *England and Wales:* Dr. R. M. Beaton (London), Dr. John Brown (Bacup), Dr. T. M. Carter (Westbury-on-Trym), Dr. S. Hodgson (Salford), Miss Frances Ivens, M.S. (Liverpool), Dr. R. A. Lyster (Winchester), Mr. James Neal (Birmingham), Dr. James Pearse (Trowbridge), Dr. E. O. Price (Bangor), Dr. Lauriston E. Shaw (London), Dr. Johnson Smyth (Bournemouth), Dr. D. F. Todd (Sunderland), Mr. E. B. Turner (London), Dr. A. H. Williams (Harrow on the Hill), Mr. D. J. Williams, F.R.C.S. (Llanelly), Mr. E. H. Willock (Croydon). *Scotland:* Dr. J. Adams (Glasgow), Dr. Bruce Goff (Bothwell), Dr. R. McKenzie Johnston (Edinburgh), Dr. J. Munro Moir (Inverness). *Ireland:* Dr. Mark F. Cahill (Belfast), Dr. J. S. Darling (Lurgan). *Ex Officio:* Dr. J. A. Macdonald (Chairman of Council), Dr. E. Rayner (Treasurer).

Apologies for absence for unavoidable reasons were received from the President, Dr. E. J. Maclean (Chairman of Representative Meetings), Dr. Oldham (Morecambe), Dr. R. E. Howell (Middlesbrough), Dr. Constance Long (London).

We are enabled to publish the following account of the proceedings in anticipation of the confirmation of the minutes.

MINUTES.

The minutes of the last meeting of the Committee, held on May 23rd, were confirmed and signed by the Chairman as correct.

PUBLIC MEDICAL SERVICE.

The CHAIRMAN reported that the solicitor for the Association had desired to take counsel's opinion upon the two public medical service schemes before they were issued to the Association, that the necessary authority had been given, and that it was hoped that counsel's opinion would be received within a day or two. The one scheme, it will be remembered, is based upon a capitation system of payment, and the other on a system of payment per attendance. The Committee resolved that, subject to the legal advisers not suggesting any material alteration, the special subcommittee appointed on May 16th be authorized to finally settle and issue the schemes.

COMMUNICATIONS WITH INSURANCE COMMISSIONERS.

The letter from Sir Robert Morant, Chairman of the National Insurance Commission for England, published in the JOURNAL of last week, page 1260, inviting the Association to arrange for the nomination of medical men to serve upon the proposed Provisional Insurance Committees for counties and county boroughs was read. The Committee unanimously resolved to inform the Commissioners for England that, acting under resolutions of the Special Representative Meeting of February, 1912, it was impossible for the Committee to assist the Commissioners by obtaining from the various districts or Provisional Medical Committees of the Association, the names of representatives for the suggested Provisional Insurance Committees; and it was further resolved that a copy of the communication received from the Commissioners, together with a copy of their reply forwarded in accordance with the above resolution, should be sent to the honorary secretaries of Divisions and Provisional Medical Committees, asking them to bring the matter before an early meeting of the Division or Committee as the case might be.

The following letter received that morning from the National Health Insurance Commissioners for England concerning the proposed inquiry into the facts bearing on the question of medical remuneration under the Act was read:

National Health Insurance Joint Committee,
Buckingham Gate, London, S.W.,
May 30th, 1912.

Sir,

I am directed by the National Health Insurance Joint Committee to refer to the inquiry now being conducted by the Subcommittee of the Insurance Commissioners which has been appointed to investigate generally the facts bearing on the question of medical remuneration under the Act. It is the desire of the Government that the inquiry shall be conducted on such lines as shall command the confidence of all concerned, and I am to state that the Commissioners will be glad to consider any suggestions that the Association may desire to make as to the procedure which, in their judgement, will best elicit the facts.

In connexion with this Inquiry the Commissioners propose to obtain information of a kind which can only be given by practitioners engaged in private practice among those sections of the community from which the insured will chiefly be drawn.

It is clear from the correspondence in the medical journals and elsewhere on the question of the effect of the Act upon the incomes of such practitioners that much difficulty is experienced in estimating what relation the income of a practitioner receiving any given rate per head under the Insurance Act will bear to the portion of his present income which is derived from private practice among the classes in question.

It appears to the Subcommittee that this difficulty arises chiefly from the fact that in private practice the practitioner only knows the number of those who have actually come to him for treatment in a given period, and has no means of calculating the number of persons not treated by him in the same period, including both those who did not require any medical attendance, and those who, while needing it, could not afford to employ him. The most effective way of elucidating this matter would appear to be to obtain particulars of the total amount of medical attendance given by practitioners to, and medical income received by them from, a definite number of persons in a period of, say, two years. This information could be obtained if all the practitioners in, say, three or four towns would throw their books open for examination by experienced accountants appointed and paid by the Commissioners. It would, of course, be understood that the detailed results of such examination would be confidential. I am to inquire whether the British Medical Association concurs as to the desirability of such an inquiry being made, and if so whether the Commissioners may rely on receiving their co-operation in the matter.

A considerable amount of information has already been collected, and is being put in a convenient form. Copies of the documents will be forwarded for the information of the Association as soon as ready.

In the meantime the Subcommittee will be glad to receive from the Association at as early a date as practicable any evidence which the Association may desire to submit in documentary form. At the same time I am to add that if the Association were prepared to nominate any of their members to give oral evidence on the matter, the Subcommittee would be prepared to hear them on Thursday, the 6th proximo, or at such later date as may be arranged.

I am, Sir,
Your obedient servant,
(Signed) W. J. BRAITHWAITE.

The Medical Secretary,
British Medical Association,
429, Strand, W.C.

After discussion, the following resolution was carried unanimously:

> That the State Sickness Insurance Committee has, after serious consideration, come to the conclusion that the time has now arrived when the Insurance Commissioners should be asked to state (i) whether they can or whether they cannot formulate regulations to satisfy the demands of the profession forwarded to them by this Committee on February 29th, 1912; (ii) whether, if they can, they are willing to formulate such regulations, or, if they cannot, what steps they propose to take in the matter.

It was further resolved that the covering letter forwarding the above decision to the Commissioners should state that if it would be of any assistance to the Commissioners in replying to have an immediate conference with the Committee, the Committee was quite prepared to place itself at the disposal of the Commissioners.

A notification was subsequently received from the Commissioners stating that they would be prepared to receive a deputation from the Committee on Friday, June 7th, and it was arranged that the whole of the members of the State Sickness Insurance Committee should form the deputation.

AREAS OF PROVISIONAL MEDICAL COMMITTEES.

A reference to the Committee by the Council instructing it to consider the advisability of at once forming a pro-

visional medical committee coincident with each insurance area was discussed. While it was recognized that certain advantages would attend such an arrangement, the Committee expressed the opinion that the present was not an opportune time for rearranging the areas of present provisional medical committees, but directed that a memorandum should be prepared showing the steps which it would be necessary to take in making such an arrangement when the time was ripe.

Medical Practitioners Called In upon the Advice of Midwives.

The minutes of the Special Representative Meeting of February, 1912, bearing on this matter, together with a schedule of scale of fees adopted by the Birmingham Central Division in 1905, and acted upon by the Birmingham Board of Guardians, were considered, along with the subsection of the Act, as follows:

Section 20. For the purpose of the administration of maternity benefit the Insurance Commissioners may, if they think fit, by special order provide for the reinsurance with them of the liabilities of all approved societies in respect of maternity benefit, and the order may provide for the method of calculating the premiums to be charged against the several societies in respect of such reinsurances, and may contain such other incidental, consequential, and supplemental provisions as may appear necessary for the purpose.

The Committee resolved that in order to provide that medical practitioners may be assured of adequate payment for attendance when called in on the advice of a midwife, the Insurance Commissioners be urged to provide by special order (as contemplated in the above Section) for the establishment of a maternity fund by the Commissioners for the reinsurance with them of the liabilities of all approved societies in respect of maternity benefit.

Supplementary Pledge and the Medical Staffs of Hospitals.

A deputation, consisting of Mr. Atwood Thorne, Chairman, and Dr. F. W. Goodbody, Honorary Secretary of the Marylebone Division, Dr. Roxburgh, Honorary Secretary of the Marylebone Provisional Medical Committee, and Mr. S. Maynard Smith, had an interview with the Committee. After the deputation had withdrawn, the Committee resolved to send a communication to the Chairman of the Marylebone Division in the following terms:

May 30th, 1912.

Sir,

Supplementary Pledge and Holders of Hospital Appointments.

The State Sickness Insurance Committee of the Association having had brought to its notice by you certain misapprehensions on the part of members of Hospital Staffs, which it is very important should be cleared up without delay, has instructed me to write to you to the following effect.

The Committee is surprised to find that some members of the profession are evidently under the impression that holders of hospital appointments may be called upon in certain circumstances by the terms of the pledge issued by the Committee, to resign such appointments. This is not the case. The resignation of appointments referred to in the footnote of the pledge simply refers to the contributory contract practice appointments mentioned in the first and second paragraphs of the pledge.

I am instructed to point out that the main object of the pledge, so far as the holders of hospital appointments are concerned, is to prevent the exploitation of the out-patient department by the insurance authorities, thus undermining the opposition of the profession to arrangements which may be made by the Insurance Commissioners, and which are not in accordance with the policy of the Association.

As regards the in-patient department, the Committee believes that the difficulties of members of hospital staffs will be largely met by a judicious interpretation of the term "urgent necessity" which has designedly been left undefined.

I am,

Yours faithfully,

Alfred Cox,

Medical Secretary.

The Committee also resolved that a similar communication should be forwarded to the Scottish Medical Insurance Council.

Next Meeting.

The Committee, which sat from 10.30 a.m., with an interval for lunch, adjourned at 7 p.m., leaving the date of its next meeting to be settled by the Chairman in relation to the proposed interview with the Insurance Commissioners on June 7th.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

After the Recess.—The House of Commens met again after the holidays on June 4th, thus starting work a week in advance of the Lords. There was not a large muster of members, but when the first division was taken, on a motion of Sir F. Banbury, no fewer than 167 members voted. The House went into Committee of Supply and discussed the vote for the Office of Works. Most of this week has been appointed for the work of Supply, as this work is in arrear, and the demands of the Committee stage of the Home Rule Bill and the Welsh Church Bill are sure to absorb most of the time up to August. The work of the session cannot be finished even then, and a prolonged session lasting to Christmas or even into next year is possible.

The Houses of Parliament require a large vote every year for repairs and improvements, and on Tuesday, when the vote for £50,800 came up, there was a lively criticism of the expenditure. A new larder was required some time back, and Mr. Norman Craig complained that it had been placed with one side next to the wall of the boiler-house, and that a hot water pipe was carried through the larders! The Government, of course, promised to see if anything could be done, and then a discussion arose as to the lighting of the chamber. Many members, it appeared, had complained that the light was insufficient, and that they could not read their notes. The substitution of electricity for gas would save £140 a year, Mr. Wedgwood Benn pointed out, and also improve the ventilation. One of the four bays of the ceiling was being lighted with electric light as an experiment, and Mr. Benn thought with success. Lord Balcarres regretted the proposal to use electric light. He strongly urged that the present lighting was less tiring for the eyes and generally better than electric lighting, and said that the present systems of lighting and ventilation of the House were greatly superior to that of any other place of assembly. Other members spoke, some in favour of the present system, and finally Mr. Benn, on behalf of the Office of Works, promised that no permanent change should be made until members had time to compare the two methods of lighting. As regards the ventilation, Mr. C. Bathurst complained that the front benches might be all right, but members who sat in other places were not satisfied. He himself had a chronic cold throughout the autumn session, due he believed to the draughts of cold air along the back benches. The matter then dropped, and the vote was agreed to.

Seizure of Diseased Animals.—In reply to Mr. Field, the President of the Local Government Board said that the powers conferred on medical officers of health and inspectors of nuisances, under Section 116 of the Public Health Act, to seize, if diseased or unsound, live animals exposed for sale for human food, had been exercised by the officers mentioned in the section, but difficulty often arose in negativing the contention that the animal was not intended for the food of man. In 1907 he had caused a circular to be issued to local authorities bringing the matter under their notice, in order that they might, as far as possible, exercise supervision over the cattle in their districts with a view to anticipating, and so averting, possible or intended infringement of the law. He had also suggested that suitable officers of the local authority should be instructed to watch closely the cattle markets, slaughterhouses, and knackers' yards in the district, with the view of satisfying themselves that no animal, the condition of which appeared to render it unfit for human consumption, was disposed of in such a manner that it was likely to be used for this purpose.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

PRESENTATIONS TO DR. J. WALTON BROWNE.

THE visiting staff of the Royal Victoria Hospital, Belfast, have made a presentation to their senior colleague and chairman, Dr. Walton Browne, on his transference to the consulting staff owing to the age limit. Dr. Browne very kindly issued invitations to the whole staff to dinner on May 31st, which proved a reunion of old and young, all eager to bear testimony to the work of their colleague and their affection for his personality. The visiting staff gave him a large and beautiful solid silver rose bowl, on which were inscribed the names of the donors; the auxiliary staff presented him with a gold cigarette case, and the resident staff with a gold sovereign case. Sir William Whitla, the new chairman of the visiting staff, made the formal presentation in happy terms, enlarging upon Dr. Browne's long service to the hospital, his skill, his happy knack of teaching, his courteous and fair conduct in the chair, and the innumerable acts of kindnesses they had all received from him. Dr. Irwin presented the address from the auxiliary staff, and Dr. Millar that from the resident staff. Dr. Browne, in replying, said that his work at the hospital had been one of his chief pleasures in life, and this was greatly due to his colleagues and his resident staff; it would be one of his great pleasures in the future to think of the kindness of his friends, old and young, and to look upon these gifts. He gave some reminiscences, dating back sixty years, when as a little child he was accidentally admitted to the operating theatre in the old General Hospital while his father was amputating a thigh. He could not find words to express to them his feelings, both for their kindness now and also for their goodness in the past when he suffered a heavy bereavement. Professor Sinclair proposed the toast of "The Chairman, Honorary Secretary and Honorary Treasurer, and the Superintendent of the Hospital." He dwelt upon the cordial relations existing between the board of management and the medical staff. Those gentlemen replied. Dr. Browne then proposed the health of Dr. Henry O'Neill, his fellow consulting surgeon, who had forsaken the paths of surgery for public health. Dr. O'Neill, in returning thanks, expressed the hope that Dr. Browne would now enter the City Council; they might have a vacancy for a Lord Mayor soon, and he knew no one who would fill the office better than Dr. Browne. Sir John Byers said they could not separate before thanking Dr. Browne as a host and entertainer, and the toast was drunk with acclamation.

HONOUR TO SIR ALMROTH E. WRIGHT IN BELFAST.

On Thursday, May 30th, the City Council of Belfast formally presented the honorary freedom of the city to four newly elected burgesses. The roll of honour is still a short one of fourteen, but contains such distinguished names as the late Lord Dufferin, Lord Roberts, and Sir Robert Hart. The new freemen are the Hon. Whitelaw Reid, United States Ambassador; Sir Joseph Larmor, who was a distinguished, if not the most distinguished, student of the Royal Academical Institution, a leading school in the town, and of the old Queen's College and Queen's University of Ireland, and who is now Lucasian Professor of Mathematics in Cambridge, and Secretary of the Royal Society; Sir Almroth Wright, who lived for many years in Belfast and also received his early education in the Royal Academical Institution, but subsequently went to Trinity College, Dublin; and Sir James Henderson, M.A., who has been a member of the Belfast Corporation since 1887, Lord Mayor in 1898, and for many years the Chairman of the Library and Technical Instruction Committee. The certificate presented to Sir Almroth Wright stated that it was "in recognition of his distinguished services in the world, by which he has revolutionized the treatment of disease." The casket in which it was contained was oblong in shape and richly decorated with raised work. The panels on either side contain views of the City Hall and Netley Hospital, and on the obverse side views of the Academical Institution and of the Cavehill; it is enriched with emblems relating to science, industry, and learning.

The Lord Mayor (Councillor R. J. McMordie, M.A., M.P.), in making the presentation, dwelt upon the researches of Sir Almroth Wright and the recognition of his work, not only in the British Isles, but also in America, Germany, and Japan. Sir Almroth, in returning thanks, said that it was most gratifying, after living in Belfast so long and then in the larger England, to find himself deemed worthy of such recognition; success in science was obtained by the same means as success in shipbuilding or in linen manufacturing, and what was needed to carry these things to perfection was to think about these things and nothing else. They must not only think about them, but get other people to think about them. The success attained by the North of Ireland was due to the fact that its people had taken their work very seriously. That, together with a sound constitution, was the chief thing in attaining success. The study of microbial disease aroused less interest in people's minds than work in connexion with electricity or steamships. In life there were only two serious things—the evil their neighbours might do them by knocking them on the head or otherwise, and the evil which came from microbes. They all suffered from microbes, and the simplest and smallest microbial disease was worthy of attention. He rejoiced to know that the money collected for the King Edward VII Memorial in that city was to be devoted to an institution in connexion with the leading hospital, where that work would be pursued.

ULSTER MEDICAL SOCIETY DINNER.

On the same evening the Ulster Medical Society entertained Sir Almroth E. Wright to dinner in the Medical Institute. The President, Dr. McKisack, occupied the chair, and over seventy were present. After the usual loyal toasts the Chairman said that the Ulster Medical Society had elected the guest of the evening an Honorary Fellow of the society, which was one of the oldest in Ireland. Professor Symmers in a happy speech welcomed their youngest Fellow, and gave the toast of his health, which was received with enthusiasm. Sir Almroth, in his reply, dwelt on the necessity of concentration for success. He said the taste for many of the pleasures of life had become atrophied with him, and so there was little left for him but work, and to this he attributed what share of success had come his way. He thought much of medicine would have to be destroyed before a new superstructure of a scientific medicine on a broader base could be erected, and quoted instances to show that many of the generally accepted statements in medicine could not be scientifically proven. The toasts of "Our Guests" and of "The Chairman," proposed by Sir Almroth, and some songs brought the evening to a close.

ROYAL MEDICAL BENEVOLENT FUND SOCIETY OF IRELAND.

A meeting of the Central Committee was held at the Royal College of Surgeons last week. The resignation of Dr. Macnamara, Honorary Secretary and Treasurer for Clare Branch, was accepted with regret, and Dr. Randal Counihan (Ennis) was elected to fill the vacancy. Applications for grants at the forthcoming annual distribution were considered, and the Secretary was instructed to make the necessary arrangements for holding the annual general meeting on June 12th at 4.30 p.m.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE GLASGOW ROYAL CANCER HOSPITAL.

THE new buildings of this hospital were opened on May 30th by H.R.H. Princess Louise, who intimated that His Majesty the King had been graciously pleased to direct that the hospital, hitherto known as the Glasgow Cancer Hospital, should be hereafter designated the Glasgow Royal Cancer Hospital. The reconstruction and extension has been in progress for some years, as owing to the necessity of carrying on the treatment of the patients the work has been hampered and prolonged. The new buildings, which were opened free of debt, have with the furnishings cost £27,000. They have been designed by Messrs. J. M. Monro and Sons, under the supervision of Dr. D. J. Mackintosh, M.V.O., of the

Western Infirmary. The hospital is now an extensive three-story building in Hill Street. It provides accommodation for 40 patients, and is thoroughly equipped for carrying out the double purpose of providing medical and surgical treatment for patients suffering from cancer, whether in the early curable stages or in the later stages where the only hope is to mitigate suffering by skilful nursing and treatment. With this view the hospital is so designed that all necessary treatment can be carried out with the least inconvenience to the patients. On the ground and first floors are several large wards, a convalescent ward, and small single wards for patients requiring special quiet or isolation. On each floor a large douche room is provided so equipped that all dressings may be carried out in it. To facilitate this the beds are of the balcony type, so that the patient can be easily wheeled about. The lighting of the hospital is good, and this is especially the case in the research department, which is located on the top flat. Equipped as it is on the most modern and scientific lines both for treatment and research, the new hospital will rank as one of the best of its kind in the kingdom.

King Edward Memorial in Scotland.

At a meeting of representatives of burghs and county councils and other public bodies in Scotland, held in Glasgow in January, it was resolved that a fund should be raised to be applied to the erection and maintenance of a "King Edward Memorial Institute of Preventive Medicine," dedicated primarily to research and the dissemination of knowledge in relation to tuberculosis, available to the whole of Scotland. At a meeting held on May 31st in the Glasgow City Chambers, an appeal for £250,000 was issued. Mr. J. D. Borthwick, City Chamberlain, Glasgow, has been appointed treasurer of the fund, and Glasgow Corporation has headed the list with a contribution of £5,000. The appeal states that research work is being carried on in public health and pathological institutes or laboratories in Scotland at present, but these have generally a recognized sphere of work, and there remains a large and useful field of operations for an institute of preventive medicine devoted primarily to research in relation to the prevention and cure of tuberculosis, in respect to which there are still many important and far-reaching problems awaiting solution. The equipment will, however, be sufficient for the simultaneous investigation of a number of other diseases; and a special department, with a small farm as an adjunct, will be necessary for the production and supply of curative serums and vaccines, for which the country is at present largely dependent on foreign sources.

Dental Treatment of Necessitous Children in Glasgow.

The defective condition of the teeth of the poorer classes in Glasgow is notorious. The school board has been considering the question of providing for the treatment of the teeth of the younger children. It was estimated that between the ages of 6 and 8, allowing for dormant cases in older children, in the ensuing year some 6,000 cases would require treatment. The share which Glasgow obtains of the Scottish grant for the medical treatment of necessitous children is estimated to be about £950. If this sum were utilized for dental treatment of necessitous children it would be possible to undertake the work. The board considered two schemes, one employing part-time and the other whole-time dentists, but did not come to any definite decision.

The Extension of Glasgow's Boundary.

The decision of the Select Committee of the House of Commons on the Glasgow Boundaries Bill at present before Parliament gives to Glasgow nearly all it asked for. The districts omitted are the burgh of Rutherglen and the adjoining part of Lanarkshire and one or two smaller areas at present in Renfrewshire. The population of Glasgow within the new contemplated boundary will be approximately 1,029,000, although the area will be only 27,000 acres roughly. The full bill would have given the city 33,000 acres. The new town council will consist of 113 members. The House of Lords has still to give its decision before the bill can become law, although it is hoped that ere the bill comes before the Committee of the Upper House much of the present opposition may be withdrawn. Conferences are being held with this aim in view.

New Child Welfare Organization in Glasgow.

A Council for Child Welfare such as has been already formed in Edinburgh and other centres has now been formed in Glasgow. It consists of twenty-one members representative of existing agencies, and includes the city sanitary and health departments, the parish council, and the School Board. Its aim is to co-ordinate and strengthen co-operation between existing organizations interested in the problems of child life and health. A small committee from the representative bodies is at present organizing the council.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

The Government Inquiry about Tuberculosis.

It is quite evident that the inquiry about tuberculosis which the Local Government Board has requested medical officers of health to make will have to be carried out in a very different manner from that which the Sanitary Committee of Manchester has attempted if anything like satisfactory information is to be obtained. Medical practitioners in Manchester have received from Dr. Niven, the medical officer of health, acting on behalf of the Manchester Sanitary Committee, the following letter, dated May 21st:

> A circular letter has been received from the Local Government Board requesting that the medical officer of health should be instructed to prepare a statement on the needs of the district in respect of the treatment of tuberculosis, and it is desired that the information shall be supplied by June 8th next. The Sanitary Committee of this city would therefore be greatly obliged if you would inform them what are the average number of persons belonging to the City of Manchester treated by you and not attending any institution, and also the numbers under treatment by you at the present time. Will you kindly classify the cases in the following manner:
>
> 1. Pulmonary tuberculosis, with or without other tuberculous affections.
> 2. Medical forms of tuberculosis other than pulmonary.
> 3. Surgical tuberculosis, including cases of tuberculous glands but not pulmonary affection.
>
> If you can further state how many of these were in an early and presumably curable condition and how many advanced the information would be useful. The Committee would be greatly obliged if you would supply this information as soon as possible.

It will be seen that the letter makes no mention of any payment for the time and trouble which would be entailed in furnishing the desired information, and it appears that Dr. Niven has no authority to offer any payment. He has stated that he framed the request so as to give as little trouble as possible, and he suggests that possibly there is some misunderstanding as to the requirements, but he says distinctly: "I have no means of paying for the information, and the corporation is not able to offer a fee." It must be clear that statistics of the character required would be useless, and possibly misleading if they were not something more than rough guesses, and no practitioner could give satisfactory information as to the number of his tuberculous patients, classified in the way suggested, without carefully going through his books and considering each case, which would be no small task in anything like a busy practice. The mere request for such information to be compiled and given gratuitously is in itself irritating, as the refusal to be exploited even for the public good carries with it among a certain section of the public some odium; but it is necessary to make it clear to the public that the limit of exploitation of the profession has been reached, and the Sanitary Committee can hardly be much surprised that the Manchester (South) Division of the British Medical Association has passed the following resolution:

> That in view of the ever-increasing calls made upon the medical profession for gratuitous services for local and

national purposes, and having regard to the harsh and discourteous treatment accorded to the profession by those responsible for the passing into law of the National Insurance Act, this meeting is of opinion that all further demands from public bodies for gratuitous services by practitioners (such as that contained in the letter issued by the Medical Officer of Health for Manchester, May 21st, 1912, on behalf of the Sanitary Committee of the Corporation) should be uniformly disregarded, and if necessary strenuously resisted.

The information sought would undoubtedly be most valuable in any consideration of the methods to be adopted for working sanatorium benefit under the Insurance Act, as showing what amount of accommodation is needed for early cases in sanatoriums and for advanced cases in hospitals, and what number of cases would be suitable for dispensary treatment or home treatment. But it is more than doubtful whether any other profession would even be asked to provide valuable information for public purposes gratuitously, and the only reason why the medical profession is thus approached is that it has been so weakly complacent in the past. Perhaps the protest of the Manchester (South) Division will show that any such requests in the future must be on strictly business lines.

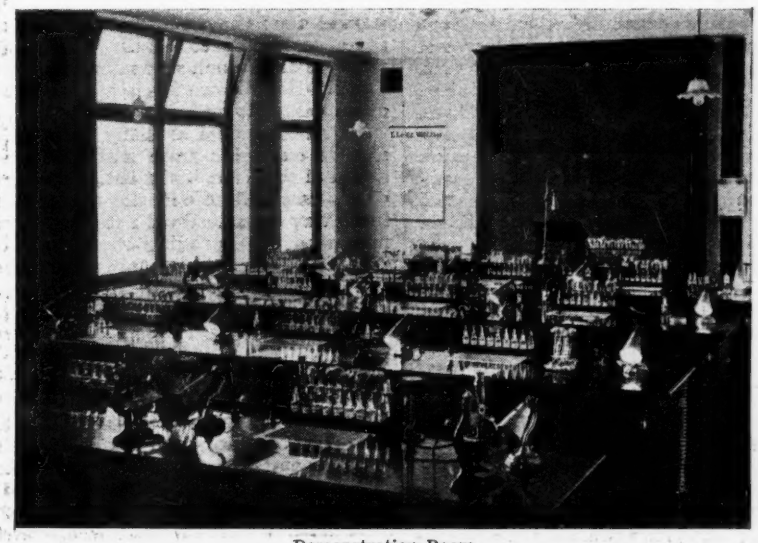
The late Professor J. Dixon Mann.

By the will of the late Professor J. Dixon Mann, who died on April 6th, and of whom an obituary notice appeared in the JOURNAL of April 27th, the Salford Royal Hospital and the Manchester University will benefit to a considerable extent. The gross value of estate was £24,639, of which the net personalty was sworn at £24,516, and of this something like £7,000 is to be devoted to charitable purposes. In addition to bequests to relatives and domestics Dr. Mann has left £1,000 to the Salford Royal Hospital, "with which I have been so long and so pleasantly associated"; £1,000 to the University of Manchester, to be applied as the Council may think fit for the medical department; £100 to the Manchester Medical Society, £100 to the Manchester and Salford Sanitary Association, and £100 to the Manchester Governesses' Institution. The residue of the property, after paying all other bequests, would appear to be between £4,000 and £5,000, and is left to the Salford Royal Hospital, this being in addition to the £1,000 left directly as stated above.

SOUTH WALES AND MONMOUTHSHIRE.

Pathological Department of King Edward VII Hospital, Cardiff.

On Saturday, June 1st, another step was taken towards the completion of the medical school at Cardiff by the opening of the new pathological block at the King Edward VII Hospital. A very large and representative gathering was presided over by General Lee, chairman of the hospital, and the new building was formally opened by one of the most generous of the hospital's supporters, Mr. W. James Thomas, of Ynishir. Mr. Thomas has not only made very handsome donations towards the hospital's funds, but has also endowed one of the new wards, which now bears his name. In an inspiring speech, Mr. Thomas referred to the pleasure it gave him to know that so much benefit was derived from the amounts subscribed.



Demonstration Room.

Sir Isambard Owen, Vice-Chancellor of the University of Bristol, delivered an address in which he pointed out that, after the time of the early Greek physicians, the real study of medicine lay dormant for 2,000 years. He reviewed the history of the Cardiff Medical School, with which he has been associated since its inauguration fourteen years ago. He was of opinion that pathological research should not be left for support to private generosity, but should become an active State-supported science.

By an arrangement between the hospital and the university college it has been possible to combine in one institution the examination of material for the hospital, the full training of students in pathology, bacteriology, and research work in a perfectly equipped modern department, which will afford facilities also for post-graduate classes. The new building, which was designed by Colonel Bruce Vaughan, Chairman of the House Committee and honorary architect to the hospital, is a self-contained block four stories high.

In the basement, besides storerooms, there is electrical plant and an ice-making and refrigerating apparatus. There is also a dark-room for photomicrographical work, and a sterilizing room where media are prepared. On the ground floor is the mortuary, fitted with teak shelves and doors, and having in it a refrigerating chamber with racks. Opening out of it is a handsome chapel, beautifully decorated with mosaics and picked out in gilt. There is a spacious, well-lighted *post-mortem* room with two tables, and a terrazzo floor with sloping edges, which allows of thorough cleansing; a chemical laboratory is also provided. On the first floor is the large demonstration room, with complete accommodation for 16 students, two research laboratories, a clinical laboratory, and the professor's private room. The fittings in the demonstration room are from Professor Emrys Roberts's own designs. The top floor contains a spacious museum, with good lighting from the roof, and it is connected with all the other floors by an electric lift.

Dinner to Sir Isambard Owen.

Sir Isambard Owen was entertained at a dinner in London (at the Trocadero Restaurant) on the evening of June 4th in recognition of the services he has rendered to Wales, and especially to Welsh education. Lord Kenyon presided, and among those present were Lord Aberdare, Lord Glantawe, Lord Pontypridd, Sir Herbert Roberts, M.P., Colonel E. Pryce-Jones, M.P., Mr. Herbert Lewis, M.P., Lieutenant-General Sir James Hill-Johns, V.C., and Sir W. Goscombe John, R.A. Sir Harry Reichel, Vice-Chancellor of the University of Wales, in proposing the health of the guest of the evening, said that the university, which was largely Sir Isambard Owen's work, possessed the particular distinction of being the first established on a popular basis; it was responsive to the national needs, and was growing in usefulness every year. As an organizer and governor Sir Isambard Owen had for years directed the council, had shown unerring judgement as an academic statesman, and had rendered priceless service to the university. Sir T. Marchant Williams, a member of the Council of the Cymmrodorion Society, supported the toast. Sir Isambard Owen, in returning thanks, said that he could look back on thirty-three years' service in the interest of Wales—a period momentous in the history of the Principality during which great progress had been made. As Bismarck had grieved for the diffidence of his fellow-countrymen, so had he for his; but the Welsh had thrown off their lack of self-confidence, and no one could foretell how great a future awaited them.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

SCHOOLS OF TROPICAL MEDICINE FOR BOMBAY AND CALCUTTA.

IN February last the Government of India approached the Corporation of Bombay with a proposal for the association of the King Edward Memorial with a school of tropical medicine, which it was prepared liberally to finance. It is stated that the basis of an agreement between all three parties has been reached. Broadly speaking, the suggestion now is that the King Edward Memorial Committee and the Corporation shall make joint arrangements for the construction and equipment of a hospital which will at once meet the needs of the northern part of the island and fulfil the purposes for which the memorial funds were subscribed. In this hospital fifty beds will be reserved for the purposes of the school. The system of control has to be worked out, but it offers no insuperable difficulty. The scope of the work for such a school is incalculable. In addition to the epidemic diseases challenging investigation, there is a wide category of tropical diseases which await inquiry. There are the special fevers, that baffling disease sprue, dysentery, and all those diarrhoeas which take large toll of life. This would at any time make a school of tropical medicine an invaluable institution, but present circumstances double its importance. We are committed to a policy of active sanitary progress. The Government of India has devoted large sums to sanitary works, and if the money is available will give more. If this money is always to be wisely spent, it necessitates a large addition to the number of medical men with special sanitary training. At present that training can be acquired only outside India; when once the school is opened, the graduate will be able to take his D.P.H. or D.T.H. degree in India itself. The Government of India's scheme for the establishment of a school of medicine in Calcutta is now ready, and will shortly be sent to the Secretary of State for his approval. A non-recurring grant of £33,000 has been made in this year's budget towards its establishment.

THE KING GEORGE ANTITUBERCULOSIS LEAGUE OF BOMBAY.

Recently His Excellency the Governor, halting on his way to the Mahableshwar, opened the tuberculosis sanatorium which has been established at Karla for the benefit of Hindu sufferers. The sanatorium will accommodate two classes of patients—those who are able to pay a small sum and those received absolutely free of charge. During the opening ceremony Major Hutchinson, I.M.S., pointed out that it was not the stage of the disease which was of importance in selecting patients for sanatorium treatment, but the type of disease, the patient's power of resistance, and response to suitable treatment. The medical officers of the Bombay League wisely held that in the campaign against tuberculosis in India the first line of attack must be the dispensary and the isolation hospital, leaving sanatoriums to be developed in careful accord with the habits of the people and their poverty. The sanatorium at Karla has wisely been commenced on modest lines, with capacity for expansion. It will be of benefit not only to the Hindu community, but to the whole Bombay Presidency, for the experience acquired there will be of the utmost value in guiding the Antituberculosis League.

THE HOT WEATHER.

Extraordinarily hot weather has been experienced in Bombay; official records show that such high temperatures have not been recorded here in any April since 1896. The average temperature for the whole month was 83°. These records are regarded by some people as portending a successful monsoon. There has also been a very striking rise in temperature over North-West India, where hot weather conditions were very suddenly established. On April 23rd, the maximum reported from Jacobabad was 96°, 10° below normal, while on April 30th the maximum was 113°, or 5° above normal.

Special Correspondence.

PARIS.

Prophylactic Inoculation in Typhoid Fever.—Subscapular Crepitation.—French and Foreign Students in Paris.

IN a letter published on January 6th, p. 51, some account was given of Dr. Vincent's experiences in the use of prophylactic inoculations for typhoid fever among soldiers in Morocco. It was stated that he had used Wright's vaccine, and also a polyvalent serum containing different strains obtained in Morocco and some paratyphoid organisms. M. Vincent has now described a method of preparing this polyvalent vaccine in which the typhoid bacilli are killed by ether instead of by heat. Up to the present date more than 20,000 such vaccinations have been performed, and not only is the method found more thorough but the reaction is slighter. M. Vincent vaccinated 100 nurses in the military hospital (Val de Grace), and in no case was any unfavourable or marked reaction noticed. He stated that in Japan, where vaccination was performed with the heat-prepared vaccine, 38 per cent. of the vaccinated showed marked and painful reaction. Several examples of the immunizing power of the vaccine were recorded, notably one case in which, in a family, the father, mother, and one child were laid up with typhoid; the two other children were vaccinated and escaped entirely. Two more convincing cases are cited; one was that of a young medical man who became infected with typhoid while working in the laboratory; he had previously been vaccinated, and he escaped the disease. In the other case a medical student inadvertently sucked some typhoid culture into his mouth through a pipette and became infected with real typhoid fever. The disease, however, was aborted by judicious vaccination immediately after infection and repeated several times.

M. Miramond de Laroquith read an interesting paper at a recent meeting of the French Military Society of Medicine on subscapular crepitation. This condition, the author states, exists physiologically in about 8 per cent. of all healthy people and in about 19 per cent. of all classes. It is due to the contact of the scapula with the ribs, and is most marked when the patient makes the movement of shrugging the shoulders. M. Miramond de Laroquith cites as pathological causes of this phenomenon: Fracture of the scapula, haemarthrosis, tuberculosis of scapula or rib, rheumatism (chronic), and syphilis.

There has been considerable friction between the Parisian and foreign students working in Paris lately, and several meetings have been held at which the French students have detailed their grievances. They object to foreigners coming to Paris to take a French degree, on the ground that the foreign student requires merely to show some certificate to obtain entrance to the university, whereas the French student must pass the French entrance examination before he is admitted to the classes; this examination is certainly thorough and is possibly stiffer than those foreign students have passed. The foreigner also is exempted from military service, and thus gets ahead of the French student, who has to serve two years of his university life in the army. This hostile feeling is in no way connected with visiting physicians and qualified men who are spending some time doing post-graduate work in Paris; they are always welcome, and everything possible is done to make their stay enjoyable.

BERLIN.

The New Radium Institute in Berlin.—Central Medical Library.

BERLIN now possesses an institute which is meant to be used for the biological and therapeutic researches with radium and other radio-active substances. Although radio-active treatment has been used for some time in Berlin hospitals with more or less good results, a central institute was found necessary, chiefly to permit the use of large quantities of these costly substances. The institute is connected with the Königliche Charité Hospital in the old "Quartier Latin," Luisenstrasse. It owes its origin chiefly to the "Kaiser Wilhelm Gesellschaft zur Förderung der Wissenschaft" (Emperor William Society for Promotion

of Science), which has decided to give an annual subscription of 10,000 marks (£500) for three years; during this time the institute will be able to prove its vitality. The director of the institute, which is called officially "Radium Institut der Königlichen Charité für biologisch therapeutische Forschung," is Geheimrat His, who has as his deputy Dr. Gutzent, well known by his radium researches; with them is associated a board of medical men, physiologists, and chemists. The amount of radio-active substances at present available consists of about 200 milligrams of radium bromide and mesothorium, of the estimated value of 60,000 marks (£3,000). This insignificant-looking treasure, contained in small capsules, is kept in an iron safe let into the wall. The institution is temporarily established in an old house, but later on a special building will be erected. There are three laboratories, containing all apparatus necessary for research and providing places for fifteen workers. Two rooms are reserved for the examination of out-patients, there is one large and one small emanatorium, and one room for measuring, etc.; a policlinic is connected with the institute.

Another kind of centralization has lately been realized in Berlin: most of the libraries of the various medical societies of Berlin have been united under one roof. This fact is due in a certain degree to the zealous effort of Dr. Hans Kohn. In the library hall of the Langenbeck Haus there are, besides the 40,000 volumes of the Berliner medicinische Gesellschaft, those of the Verein für innere Medicin with about 12,000 volumes. The same hall contains the libraries of the physiological, laryngological, dermatological, otological, and urological societies, as well as those of the society for social medicine and of the Deutsche Reichs-comité für Krebsforschung (cancer researches). The advantages of such a centralization are obvious. The whole literature being in one place, it is so much easier to get the volume demanded; separate subscriptions by each society will no longer be necessary, and the money saved will be used for the purchase of books. It is to be expected that in the course of time all the libraries for special branches of medicine in Berlin will be combined into one.

VIENNA.

Jubilee of the Vienna Poliklinic.—Outbreak of Small-pox in Austria.—The Public Health Act in Parliament.

THE recent solemn celebration of the fortieth anniversary of the Vienna General Poliklinic has been signalized by the publication of a pamphlet, issued by the managing board, which gives a short history of that institution and its steadily increasing importance for every branch of the medical profession in Austria. The Poliklinic owes its being to the fact that forty years ago it was almost impossible for professors and privatdocents to obtain either sufficient work or experience at the general hospital. A certain number of them, therefore, decided to cut themselves adrift from the hospital, and, having rented a flat, they opened a private dispensary. The new foundation was not long in finding favour with numbers of patients who were wont to apply to the general hospital; and so popular did it become that only fifteen years later it was already looked upon as a valuable addition to the numerous charitable institutions of Vienna, and was sufficiently prosperous to justify its removal from its first home to the more spacious premises which it at present occupies. The addition of a hospital, which now contains 150 beds, naturally added greatly to the excellent teaching possibilities of the establishment, and the Poliklinic is now a fully-equipped up-to-date medical school which is not only an appendix to the great general hospital but in many instances an equivalent thereto. Its teaching staff is composed of well-known physicians and surgeons, such as Drs. Manneberg, Alexander, Koschier, Hamburger, and others, who are not only professors and privatdocents, but specialists as well. A good deal of scientific research is done in the hospital, to which, if the funds permit, a new wing is shortly to be added, so that the staff will soon have 200 beds at its disposal. Profession and public alike have accorded the establishment their confidence and approval, and the Vienna Poliklinic is universally regarded as a most useful and efficient institution.

A certain amount of anxiety has been felt during the last few weeks by the medical officers of this country owing to the sudden appearance of several sporadic cases of small-pox. Thanks to our excellent system of vaccination, Austria at the present moment contains hardly any foci of infection; therefore the history of every fresh case is at once important and instructive. Nearly all the cases reported recently (with the exception of two, which came from Russia) have been traced to Italy; and these, it is said, were carried across the Mediterranean from Tripoli. It is both interesting and significant to note that nowadays the appearance of even a solitary case of small-pox is enough to arouse the interest of the public, whereas forty years ago the disease was regarded as an every-day occurrence. There can be no doubt whatever that vaccination, and vaccination alone, is responsible for this extraordinary change in public opinion.

The reading of the Public Health Act (*Seuchengesetz*) has just been accomplished by the Parliamentary Committee on Public Health. The Act deals entirely with infectious diseases; but, in spite of the urgent need for legislation on this subject, it contains no provisions for the compensation of persons who have suffered any monetary loss, either from the necessary disinfection, or from being detained in quarantine, or from being debarred from their means of livelihood by the enforced closing of their shops. Neither does it legislate for cases of wilful transmission of disease, such as frequently occur in the case of sexual diseases; whilst the question of the payment of doctors for work done in the interest of the public (notification of epidemics and the like) has also been passed over in silence. The sanitary authorities, however, whilst freely admitting the many deficiencies of the Act, have announced their intention of presenting it to Parliament in its present form, since the adoption of the better regulations which they, together with the entire profession, desired is now rendered impossible owing to lack of funds. It is only just to add that the Act, even as it now stands, is a vast improvement on the existing law.

Correspondence.

APPENDICITIS—AND QUICKNESS.

SIR,—Recent issues of the JOURNAL have contained letters from different correspondents on the question of early operation in every case of acute appendicitis. As they give expression to views that I consider are unfortunate in their teaching, and do not indicate what is meant by "immediate operation," I think that this latter point is one which should be made clear and distinct. If the expression implies that operation should be done within twelve hours of the onset of the attack of appendicitis, I have no fault to find with that line of action, but if the word "immediate" is also to mean that operation is to be done as soon as the surgeon sees the case, no matter how long its previous duration, I am entirely opposed to such a course of treatment.

In his letter in your issue of May 18th, Mr. Paterson states that more than 1,500 deaths occur every year from appendicitis in England and Wales, but indicates that the majority of these deaths ought not to take place. Has Mr. Paterson ascertained how many of these deaths were of cases of acute appendicitis that had been operated on? This, I consider, is a very important point. I am satisfied that many of the deaths from acute appendicitis are due to operation done at the wrong time, and until this is recognized by surgeons and acted upon, we will have disastrous results.

As I said in a recent lecture on acute appendicitis, its modern surgical treatment has not won the triumphs that it ought to have done to justify interference in every stage of an acute case of this ailment. There is no doubt that after twelve to twenty-four hours have elapsed, Dr. Dickson is right when he says that every case ought to be judged on its own merits, and I can assure Mr. Paterson that the adoption of that practice has not always such deadly results as he thinks. I have recently published statistics of 273 consecutive cases in hospital work with a death-rate of 3.3 per cent., where in the 151 acute cases this course of action was followed, and I am satisfied that

it is not "flying in the face of Providence" to delay operation. The truth is that the treatment of acute appendicitis, when operated upon in any and every stage of the attack, has had results that can only be described as disastrous, and it is time that this matter was more fully discussed and more definite rules laid down than at present exist.

The clinical lecture by Mr. Dauber in your number of May 25th, 1912, opens with such a graphic account of appendicitis and its dangers, and expressed in such terms, that, were we not dealing with a serious subject, it has its amusing side, for in it he likens the appendix to a wild cat, and speaks of it as if it was rampaging around the abdomen and creating a great deal of mischief wherever it goes. He admits that a wild cat in a bag can be easily dealt with, forgetting that that is really the position of the appendix in a very great proportion of acute cases. The bag is one composed of infected plastic lymph and leucocytes, and it is the attempt to take the appendix out of this bag by the way of the peritoneum, before the elements of infective material with which it is impregnated have died down and have ceased to be dangerous, that is the source of danger. I am satisfied, from a good many years of hospital experience, where I have had every class of appendicitis cases under my care, that the practice of judging every case on its own merits and acting accordingly, as advised by Dr. Dickson, is the proper one to follow, and the one that gives the best results.—I am, etc.,

Glasgow, May 31st. GEORGE THOS. BEATSON.

SIR,—I should like to mention two cases of appendicitis which have recently come under my care, and which along with Dr. Rice-Oxley's case forcibly confirm Mr. Owen's views.

The first case was that of a young Indian student. The day I saw him he had come back from town complaining of a certain amount of abdominal pain, but it was not very severe. There was no rise of temperature, but the pulse was about 90. Next morning the patient felt much better and the tenderness over the appendix was only slight. However, as I had no doubt that this was a case of appendicitis, and as he might have to go back to India at any time, I advised operation. The operation took place on the second day after the initial symptoms, and by that time all pain and almost all the tenderness had disappeared. When we operated we found a gangrenous patch on the appendix penetrating all the coats.

My second case was a little girl aged 11. She complained of abdominal pain on a Tuesday and also vomited. Her temperature was 99.4° and her pulse was 100. On the Wednesday the pain had all gone and the temperature was normal; the pulse-rate, however, was raised. Taken on the whole, the child seemed much better and was clamouring for food. Bearing in mind the case mentioned above I advised operation, and this advice was followed. At the operation we found a gangrenous patch in the mucous membrane extending as deeply as the serous coat.

There can be no doubt that if these two cases had been left they would both have perforated within a very few hours with disastrous results, as no adhesions had formed. Both these cases were to all appearances of a very mild type, and both after the first few hours felt quite well. These two cases have been a lesson to me, and in future all my cases of "mild" appendicitis will be operated on.—I am, etc.,

Ealing, May 31st. JOHN B. MASON, M.B.

SIR,—The correspondence under this title is of peculiar interest from the point of view of the practitioner in the provinces, since to him there are special facilities for quickness in dealing with these cases, for the diagnosis may be made, and the operation performed, within the course of an hour or two.

In every case of acute appendicitis seen in the early stage it has been my custom for the last three or four years to counsel an immediate operation, and never to wait for the appearance of constitutional disturbances. Since the adoption of this principle there have been many cases, and the mortality has been *nil*.

The absolute necessity for these radical measures has been demonstrated often, only when the abdomen has been opened; for in several recent cases, of which I have notes, the symptoms and constitutional disturbance have been so slight that one would certainly not have been led to expect the perforated appendix and early spreading peritonitis which were found at the operation.

I do not believe it possible for any one to estimate with accuracy the extent of the mischief in each case until the abdomen is opened. In my own limited experience of these acute cases the state of affairs found at the operation is almost always either as bad or worse, seldom better, than that anticipated.

Surely under these circumstances early surgical interference can hardly be said to be unnecessary. If, however, the patients be allowed to incur the unjustifiable risk of waiting, and in the process of time get over the attack, there is yet another spell of several weeks of bed in store for them, for it will be admitted that no one should be allowed a second attack; so much valuable time is therefore wasted.

Moreover, there is without doubt a growing fear of the disease amongst the public, and a knowledge that the consensus of present-day medical opinion is in favour of immediate operation, so that now one rarely meets with any serious objection to the adoption of this course.—I am, etc.,

Yeovil, Somerset, May 23rd. NORMAN FLOWER.

THE CENTRAL COUNCIL ELECTION.

SIR,—Will you allow me to say that, though I have been nominated for the Central Council for the Lancashire and Cheshire Branch, it is not my intention to stand at the present election, and I have definitely withdrawn my candidature?

For the time being the extremists, whose object is simply to "smash the Act," appear to have the upper hand, and I cannot help feeling that some of the methods adopted by the State Sickness Insurance Committee are leading to a serious defeat, which will leave us in a far worse position. The refusal to nominate medical members of the Provisional Insurance Committees is an example which is little short of cutting off our noses to spite our faces. The committees would have to deal almost entirely with sanatorium benefit, and seeing that the arrangements for administering this benefit are distinctly favourable to general practitioners, and that practically all the suggestions of the profession have been followed as regards the share to be taken by general practitioners in the working of this benefit, the refusal to assist in its administration can hardly fail very seriously to damage the general practitioner.

Moreover, as regards medical benefit, on which alone the profession has had any quarrel with the Government, none of the suggestions for a public medical service organized and worked solely by the profession are in the least satisfactory. All the schemes overlook two essential factors—namely, that the people who find the money will insist, and justly so, on having a considerable share in the working of the service for which they pay; and, secondly, that anything from 10 to 20 per cent. of the money that ought to go into the pockets of the doctors would have to be spent or wasted on working expenses. The schemes are, in fact, little more than attempts to glorify a provident dispensary system, though they would, in fact, only add to it unnecessary and impracticable conditions. A far more practicable method would be to accept a "pooling system" under the Act, giving an absolute free choice of doctor to all the insured, and, where the profession desired, payment per attendance according to an arranged scale out of the pool, which might be largely in the hands of the profession. If the pool were then proved to be insufficient to meet the cost of medical attendance, it would be perfectly possible under the Addison amendment, Clause 15 (3), to arrange for the well-to-do patients to pay any deficiency.

I am convinced that a fixed and universal income limit of £2, quite irrespective of localities and size of families, will have to be given up, and we shall have to rely for an elastic income limit adapted to circumstances, which can be obtained under the Addison amendment. In other respects our seven cardinal points, if they are liberally interpreted, can be justified, and, I am confident, would be accepted. But with the construction placed on the cardinal points by the extremists in the profession the public will never agree, nor will reasonable members of the profession seriously fight for the extremist demands, especially as they involve the complete loss of any protection to the profession, however slight that may be thought, which the Act has provided.

In spite of any temporary misunderstanding, nothing will prevent me fighting to the best of my ability for the just rights of my profession which has been so shamelessly exploited by a section of the public and by many public bodies in the past. But I fear that practical and moderate counsels, if the least suspicion of "working the Act" can be attached to them, receive but little hearing at present, nor will they until the utter impracticability of the extremists has been demonstrated by a bitter experience, and I only hope that the extremist policy, typified in the National Medical Union, may not bring disaster to the general practitioner far more irretrievable than anything that could possibly occur under the Act.—I am, etc.,

Salford, June 3rd. J. H. TAYLOR.

SIR,—Certain statements appearing in the circulars and letters issued by Dr. O'Sullivan in support of his candidature for election on the Council of the Association require amplification or correction. In an undated leaflet to the electors of the Lancashire and Cheshire Branch, he says "efforts are being made by interested individuals to discount my candidature," "by alleging that my action at the Representative Meeting did not satisfactorily represent the views of the members of the Liverpool Division."

We do not know anything about the alleged attempt to discount his candidature, but it is certainly true that at the Representative Meeting referred to Dr. O'Sullivan voted and spoke on several important issues directly in opposition to his instructions. It may also be pointed out that Dr. O'Sullivan was appointed to attend the meeting as deputy in virtue of his having been elected Representative for the meeting to be held in July, and that the success of his candidature as Representative was largely due to a circular signed by several consultants who specially recommended him as being a gentleman who would "faithfully" carry out instructions.

Dr. O'Sullivan is correct in saying that he received a vote of thanks for his services as Deputy, but it was quite clear from the speech of the proposer of the vote, and the tone of the meeting, that this was purely an act of indulgence.

In a letter to the JOURNAL of May 27th, Dr. O'Sullivan explains his missing his nomination by the Division as being due to an intrigue. There was no intrigue—there was simply a desire that he should not be elected a member of Council.

Dr. O'Sullivan claims to be a strong opponent of cheap contract work.

Resolution proposed by Dr. O'Sullivan at a meeting of a Committee appointed in Liverpool to examine into the Insurance Act:—

That the scale of fees should be one and sixpence per visit, and a shilling at the doctor's house; and, failing this, remuneration should be on a similar scale per capita.

We trust that the members of the Lancashire and Cheshire Branch will not be too much elated by the scale of fees considered, by this modern Cincinnatus, to be adequate remuneration.—We are, etc.,

THOMAS R. BRADSHAW,
THOMAS BUSHBY.

June 4th, 1912.

SIR,—Mr. Parkinson has honoured me with special prominence in a letter to the JOURNAL, and it is necessary in the interest of the Branches I have hitherto done my best to represent to answer his allegations.

In the first place, Mr. Parkinson has probably overlooked the fact—if he ever was aware of it—that the by-laws regulating the election of members to the Council were altered by the Representative Meeting in Belfast in 1909. The by-law touching his eligibility for re-election for one year after six years' continuous service ran as follows:

No. 25. Each member of Council elected by a Branch in the United Kingdom shall be elected for one year, and at the end of that time shall be eligible for re-election unless he have served as such Member of Council for six years successively, in which case he shall for one year be ineligible for election as such Member of Council.

Dr. Johnson Smyth accordingly represented the Dorset and West Hants and West Somerset Branches at Sheffield in 1908, while I and Dr. Eales represented the South-Western Branch, and Mr. Parkinson was the Representative of the Bournemouth Division in the Representative Meeting. At Belfast in 1909 Dr. Eales and I represented the South-Western Branch again, and Dr. Johnson Smyth was succeeded by Dr. Davison as Representative of the Dorset and West Hants and West Somerset Branches.

At the Belfast meeting in 1909 new groupings of Branches for election of members to the Central Council were adopted and new by-laws were passed, so that in 1910 a fresh set of constituencies were in many instances created, and the South-Western Branch had no longer two Representatives of its own, but shared with the Dorset and West Hants in the election of one member. A *new group* was thus constituted, and I had the honour of being the first member so elected, and commenced a *fresh term* of service as a member of Council.

The by-law formerly 25 is now 47, and is:

47 (1). *Term of Office of Members of Council elected by Branches.*—Each member of Council elected by a Branch or group or by the Representatives of constituencies in the United Kingdom shall hold office for one year, and at the end of that time shall be eligible for re-election unless he have served as Representative on the Council of *one and the same Branch or Group* for six years successively, in which case he shall for one year be incapable of being elected as *such* Representative.

I took care to ascertain whether my nomination was valid before the date at which nominations might be sent in, as I understood that Mr. Parkinson had expressed his intention of contesting the validity, in order that the Branches concerned might not have been compelled to accept by a side issue to be represented by a gentleman who would not otherwise be given a preferential chance of election.

I hope all members of the Branches concerned will not fail to mark the voting papers, which will be sent to them in due course on Saturday, and that there will be a sufficient number of votes given to express the wishes of the constituents.

Mr. Parkinson is not pleased with the action of the Public Health Committee with reference to part-time medical officers of health, but I must remind him that his criticisms should be rather directed to the members of the Representative Meeting, who on three several occasions have affirmed the principle of the celebrated Minute 234, by which the policy of the Association, and consequently of the Committee, was decided.—I am, etc.,

Exeter, June 4th. EDWARD J. DOMVILLE.

SIR,—I do not grudge Dr. Brassey Brierley any satisfaction which he may feel at my defeat. I simply tried to carry out the instructions of my Division given to me in the meeting convened for the instruction of the Representative. Apparently my action was endorsed by my constituents at the meeting held to receive the report of the Representatives, as they passed a vote of thanks to me without a dissentient voice—a somewhat gratuitous piece of hypocrisy in view of the subsequent proceedings.

But in regard to Dr. Maclean, I think Dr. Brierley's satisfaction must be tempered by the fact that, in spite of a well-organized opposition, the Division was spared the crowning disgrace of dismissing a man whose self-sacrificing and untiring efforts for the good of his profession, in spite of a little temporary obloquy, will be appreciated by subsequent generations at their true worth.—I am, etc.,

W. B. CRAWFORD TREASURE,
Cardiff, June 3rd. Late Deputy Representative, Cardiff Division.

SIR,—On a previous occasion the Kensington Division recorded its disapproval of the attempt made to fill *all* the vacancies on the Central Council of the Association with nominees by a "caucus"; at the present moment a similar attempt is being made, though by a "caucus" of a different complexion. The circulation of *four* names combined in nomination for the *four* vacancies which the Branch is called upon to fill tends to suggest to electors not acquainted with current events or the procedure of the Council elections, that the names put forward have the support of some authoritative body. Thus, all the available seats may be filled on the strength of votes given without any knowledge whatever of the merits of these and other candidates.

Estimable though the gentlemen proposed by the "caucus" may be, a list which does not include the names of

such keen, strenuous, and broad-minded workers as Dr. A. H. Williams, of Harrow, and Dr. Charles Buttar, of Kensington, certainly does not contain all the names of those most desirable to fill the Branch's vacant seats. All who have been in or near the front of the fight in the Insurance Act battle have recognized the amount and quality of the work done by Dr. Williams in the Central State Insurance Committee and in the Branch Council, of Dr. Buttar (who was unanimously nominated by this large Division) the same can be said; his chairmanship of the Insurance Committee of the Branch Council and of the Kensington Division has enabled those associated with him to recognize that he also is a man of sound judgement and ability, and therefore worthy of support by all members of the Branch.—I am, etc.,

London, W., June 4th. HERBERT TANNER.

SIR,—I shall be glad if you will allow me space to ask the members of the Metropolitan Counties Branch to support Dr. A. H. Williams, who has been nominated as a candidate for the Council by the Harrow Division, and to vote for him at the forthcoming election. It is important that the large area of the Metropolitan Counties Branch outside the limits of London should be represented on the Council, and Dr. A. H. Williams would apparently be more thoroughly representative of this country area than any of the other nominees. Dr. Williams has been engaged in general practice at Harrow for over twenty-two years, and has had experience of all grades of practice, including a large amount of contract practice work.

As a member of the British Medical Association he has worked indefatigably; he is Chairman of the Harrow Division, and has been a member of the Representative Body for five years. He has been a member of the State Sickness Insurance Committee since that committee was first instituted, and in addition has served on the Contract Practice Subcommittee and on the School Children's Subcommittee. He is also a member of the Advisory Committee set up under the National Insurance Act.—I am, etc.,

C. M. PENNEFATHER,
Honorary Secretary of the Harrow Division.

Harrow, May 28th.

[WE have received some other letters with reference to the Central Council election for which it is impossible to find space. Among them is one from Dr. T. R. Waltenburg, Representative of the Salford Division of the British Medical Association, strongly recommending Dr. Helme's candidature, and adding that though he would personally prefer Dr. Reynolds, he thinks that in fairness to Liverpool the second member to be returned should be Dr. O'Sullivan.]

NATIONAL MEDICAL UNION.

SIR,—Dr. Helme has now favoured the readers of the JOURNAL with his reasons for resigning his membership of the National Medical Union, and the officials of the Union have set forth various resolutions indicative of the work of that organization. Can any man who has perused these resolutions assert with justice and truth that they contain in the remotest degree anything calculated to foment dissension and discord, or impair loyalty to the British Medical Association or unity in our ranks?

The gist of Dr. Helme's letter really exists in the charge that he has levelled against the Union of being hostile to the action of the Representative Body, and of seeking to secure the return of candidates who are in "declared and direct" opposition to the action of that body. As I am involved in that charge, I hasten to offer to it a most strenuous and emphatic denial. Is there an action of mine, or anything contained in my address, that could be distorted or twisted into implying such? I trow not. A pious expression of regret at a certain line of action, resulting in an accomplished fact, is to be read as meaning future "declared and direct opposition." As well say that because a man deprecated a certain line of action adopted by Parliament he was in declared and direct opposition to parliamentary institutions.

Dr. Helme's letter does no justice to the talents he is known to possess, of which talents I am an admirer. It is a production dictated by expediency, and his charges are based upon innuendo and implication, constituting sorry implements with which to erect and buttress a weak case against men who are as loyal to the Association and to the Representative Body as any man, or body of men, who are striving during this time of stress to hold the fort on the part of the profession; and it is not in accordance with our national characteristic to charge such men with disloyalty, and stigmatize them as fomenters of discord and disunion because, though desirous of arriving at the same goal, they may not see eye to eye as to the methods adopted.—I am, etc.,

Liverpool, June 3rd. J. E. O'SULLIVAN.

SIR,—Although we are not writing as members of the National Medical Union, we feel it incumbent on us, as the organizers of the movement which resulted in the mass meetings in Manchester and the formation of the National Medical Union, to reply to Dr. Helme's defence of himself, and his attack on the Union, in your issue of June 1st.

We cannot allow that any candidate is justified in attempting to secure votes by inaccurate assertions against the body of men who have done so much to expose the dangers contained in the National Insurance Act, and to strengthen the position of the medical profession. This is generally acknowledged all over the country. The firm and consistent attitude of the National Medical Union, as maintained from its formation, is, and will be proved to be, the correct one.

The resolutions published in the current number of the JOURNAL disprove beyond doubt Dr. Helme's unjust attack on the union as a "rival association." It is a temporary organization of the profession against the Insurance Act as it stands and to assist the members of the British Medical Association in their fight for their rights, which the Council, whom they trusted to safeguard their interests, had practically thrown away by their feeble opposition and mistrust of the profession. The British Medical Association has been acknowledged by the union, from its inception, as the only channel through which the medical profession could make its demands known.

Our purpose, however, is not so much to defend the Union as to question some of Dr. Helme's opening remarks. We possess notes regarding the proceedings of every meeting which was held previous to the formation of the Union, and we should like to state that the circular convening the first meeting, a copy of which Dr. Helme received, stated that the objects of the meeting were to consider "the formation of a combination of the medical profession of Lancashire and Cheshire, to extend throughout the country, if thought advisable, for the purpose of taking action to oppose the proposals contained in the National Insurance Bill."

This meeting was held on November 4th, the day after Mr. Smith Whitaker's visit to Manchester, when he stated that the British Medical Association had done all it could, and that the only thing now remaining was individual bargaining by the Divisions, which could not begin until the bill had been placed on the statute book.

At this first meeting the Chairman stated that no opposition to the British Medical Association must be thought of, and other speakers emphasized this. Mr. Larkin was present on this occasion, and occupied thirty-five minutes in addressing the meeting, devoting his speech to a justification of the action of the officials of the Association, but chiefly to a very favourable criticism of the bill as it then stood amended, and he summed up his criticism in the following manner: "We have in the bill a great deal we asked for. We have in the bill much more than we would have expected. Indeed, on the whole, I consider it a good bill for the profession."

When Mr. Larkin had left the meeting Dr. John Brown of Flixton proposed that, before we determined to form a Union, the opinion of the profession should be taken, and that for the purpose a mass meeting should be held. This resolution was unanimously adopted.

Dr. Helme was not present at this first meeting; neither was he at the second, at which Mr. Wright presided and a committee was formed to carry into effect the proposal that a mass meeting should be held.

At a later meeting, when Dr. Helme was present, occurred the dramatic incident of his taking up his papers and declaring that he would retire altogether if the movement were not made national instead of local. Dr. Helme adopted the resolutions passed in the

Committee of the Union, and proposed them at Ashton-under-Lyne and other places, and they appeared in the daily press as the "Helme resolutions." At the same time a £500,000 scheme as a guarantee fund was mentioned, and he permitted himself to be credited with the formation of the National Medical Union. Dr. Helme's memory is short for embarrassing facts such as these. His notions, too, of compromise, and loyalty to his colleagues, are not identical with ours.—We are, etc.,

HAROLD B. WOODCOCK.
J. SKARDON PROWSE.
JAS. BRASSEY BRIERLEY.
J. W. STENHOUSE.

Manchester, June 1st.

SIR,—In his letter in your last issue Dr. Helme states that "a small body in Manchester had been trying to form a rival association. One of the present officials of the Union with another called upon me to ask me to assist and take the presidency."

I have asked Dr. Helme which official he alludes to, and he informs me it is myself.

I can only say that Dr. Helme is entirely mistaken as to the purpose for which Dr. Lund of Stretford and I called upon him.

The true history of that interview is that Dr. Lund and myself wished to bring forward a resolution in the West Manchester Division of the British Medical Association to requisition a special meeting of the Lancashire and Cheshire Branch, and knowing that Dr. Helme was fully conversant with the laws and regulations of the Association, we called on him to gain his assistance in properly drafting the resolution so that it could not be ruled out of order. In this he materially helped us.

Afterwards, during a general discussion on medical politics, Dr. Helme said we could not hope for any help from the present officials of the Association, who did not consider the interests of the general practitioner in the least. It was then that Dr. Lund said that the work must be done, and if it could not be done within the Association it must be done outside it, and asked Dr. Helme if he would be willing to lead such a campaign. This was simply a casual conversation, and how Dr. Helme could translate it into an invitation to the Presidency of any body whatsoever I am at a loss to know.

Neither Dr. Lund nor myself represented any other persons, and never in any way suggested that we were a deputation, and any mistrust we may have felt for the British Medical Association during that interview was caused by Dr. Helme's statements regarding its management.

I would add that both Dr. Lund and I are as loyal members of the British Medical Association as Dr. Helme himself claims to be, and that this interview took place at the beginning of last August, long before the idea of a National Medical Union or even any mass meeting was thought of.—I am, etc.,

Stretford, June 4th. T. WHEELER HART.

P.S.—I endorse all the statements contained in the above letter as correct.

J. KNOWLES LUND.

SIR,—In my letter which was printed in your last issue I refer to an interview which I gave to an official of the National Medical Union and another, and at which I was asked to assist in the formation of a new society outside the British Medical Association. I shall be obliged if you will give me the opportunity of stating that I have had a conversation with that official to-day, and am now informed by him that it was not intended that this society should be antagonistic to the British Medical Association, but to the Council.—I am, etc.,

Manchester, June 4th. T. ARTHUR HELME.

A NATIONAL MEDICAL SERVICE SOCIETY.

SIR,—The progress of events in connexion with National Insurance during the past year has brought us all the time nearer to the point of realization that the only outlet to the chaos into which we have drifted is the establishment of a National Medical Service.

There is no doubt that a national scheme for the treatment of men, women, and children could be inaugurated which would retain free choice of doctor to the patient and provide full employment at an adequate salary for all members of our profession.

One of the greatest evils of the proposed insurance system is the inclusion of insured persons only, leaving out the majority of women and the children. Even if all the demanded cardinal points are granted, the undesirability of this arrangement will soon become obvious to the profession after the scheme has been set at work.

Day after day by piecemeal legislation one department after another of the practitioner's work is filched from him. At one time it is an infectious disease (and phthisis soon will be added to the list), next it is his midwifery practice, and presently the treatment of the school child. Organizations of workmen are demanding action as to medical treatment of certain trades and betterment of the conditions of workshops and homes. The two great branches of our profession are being divorced more and more, and preventive and curative treatment are being sundered in a wholly unscientific way.

Surely it is about time to set our house in order by getting in touch with the march of events, and rehabilitating ourselves in a new and impregnable position, in which the amount of our remuneration, and professional prominence and importance, shall not be directly dependent upon the prevalence and persistence of disease and ill health.

My object in writing is to appeal to those who are of the same way of thinking to unite in forming a society for advocating a National Medical Service. I have been written to by several colleagues as to the formation of such a society, and it is hoped to hold a meeting for the purpose at the time of the annual meeting in Liverpool. The society would entirely support the British Medical Association. It would work not for a service composed of a portion of the practitioners, but one in which all would be included at rates of remuneration better than obtain at present. As the service would include every one, free choice of doctor would be maintained. The profession would be adequately remunerated, because a plain statement could be put forward which cannot now be done when only one-third of the population is included. Any subscription to the society would be purely nominally to cover postal expenses only. I shall be glad to hear from anyone who is prepared to join such a movement towards a national solution of our problem.—I am, etc.,

Bio-chemical Department,
The University, Liverpool,
June 3rd. BENJAMIN MOORE.

THE FINANCE OF THE ASSOCIATION.

SIR,—My excuse for troubling you with a reply to Dr. Brierley's letter is that I am one of the veterans who have stuck to the British Medical Association for upwards of forty years, and although my remote place of residence has deprived me of the opportunity of serving my fellow members as I should have desired, nevertheless I have done what lay in my power.

I do not know enough as to the duties of the Medical Secretary to express an opinion so dogmatic as Dr. Brierley's, but I confess I regarded as waste most of the vast piles of literature handed to me for perusal by the Honorary Secretary of my Division, to whom I had to render assistance to enable him, a man in busy practice, to cope with them at all; I fear I must admit that neither of us read half of them.

Watching from year to year the progress of the Association from afar, I was disappointed to find that the nineteenth century craze for parliamentary institutions had got hold of men whose scientific training would, I should have thought, rendered them proof against the delusion that 100 men selected haphazard could manage the business of the Association better than a tithe of that number who could devote themselves to the work. The idea of the Representative Meeting seemed to me futile, inasmuch as members gathered from far and near are called on to decide in a few hours matters that would need weeks of careful consultation, and I regard the making of these members mere pledge-bound voting machines as so very objectionable that I refused to serve.

When I joined the Association, and for years afterwards, it was purely a scientific association as its name stated,

but latterly other duties have been forced upon it until to-day it is required to fight the battles and regulate the conduct of the great bulk of practitioners in these islands.

In my humble opinion the work of the Association could be better conducted as a big company with a paid board of directors and paid officers than in any other way. This leads me to another point.

How can members expect the Association to conduct their business successfully without ample means? When it was proposed to increase the subscription I had hoped it would be doubled at least. £2 2s. per annum would be little enough to pay for the work we want done.

In fine, I think if we want our work done on business lines we should put our hands in our pockets. Many of us are members of one or other of the great motoring organizations, and we do not regard two guineas or more as too much to pay for the benefits we derive from them, which are trifling compared with what the British Medical Association could do for us if it had the means, and I think if the matter was properly explained to the members, and a business-like prospectus of the company put before them as to what it could do for them, there are few who would not be willing to pay up.

All honour to those who have given their time and labour ungrudgingly in the past for our welfare; but times are changed, and the activities of the Association are so extended that is unfair to ask men to sacrifice so much of their valuable time for us without remuneration.—I am, etc.,

Cootehill. T. H. Moorhead.

DEATH AFTER SALVARSAN.

Sir,—Under the above title, Dr. Campbell M'Donnell published in No. 2681 of the Journal a case in such a way that this publication may give a wrong impression, as if the death of the patient in question had been due to the salvarsan. I think that it is not only justifiable but necessary to inquire into each such case, and to ask for more definite and detailed accounts. From the very short paragraph one can only gather the following:

1. That two injections were made within a very short period. Opinions, of course, still vary very much as to the interval at which injections of salvarsan should be given, and there is much to be said in favour of the different views, although it is certain that the early and frequent repetition of injections is inconsistent with the views Professor Ehrlich developed in his original publications on the subject. According to him, frequently repeated doses produce an immunity of the *S. pallida* to the drug, so that if one has not succeeded in eradicating the organisms present in the system by one injection one ought to wait until a generation of spirochaetes has developed which is no longer arsenic-fast, which, of course, takes some time. However this may be, and whatever views one takes on the subject, this is only mentioned as a general statement, not with the purpose of putting the fatal result of this case down to the repeated injections.

2. The second point which strikes the reader who is initiated with this particular kind of treatment is that all the symptoms given by Dr. Campbell M'Donnell are absolutely different from those of acute arsenic poisoning, which would rather have to be expected if death had been due to acute arsenic poisoning.

3. The symptoms given are such as are frequently met with in cases of acute septicaemia due to certain organisms. The septic rash, sweating, and the epileptiform fits I had an opportunity to observe in several cases of septicaemia. The temperature is not an argument against this theory, as also in the cases I am mentioning I have repeatedly found normal temperature. The offensiveness of the breath is another point one finds in cases of general blood poisoning, in which organisms of the putrifying group are the cause of the disease. According to this it may be possible that simultaneously with the injection an infection had taken place which would account for the disaster. This is, of course, only a supposition, as the dates given in the communication of Dr. Campbell M'Donnell are not sufficient to come to any definite conclusion. But, however that may be, I do not think that one is justified in publishing a case without giving the result of a thorough pathological and bacteriological examination of the secreta before and after death, and to blame a treatment which has brought the most excellent results in many tens of thousands of cases for a fatal ending which may have been, and probably was, due to an accident or faulty technique.—I am, etc.,

London, S.E., May 20th. E. v. Ofenheim.

THE SALE OF FEMALE REMEDIES.

Sir,—We have learnt a great deal as to quack medicines from the invaluable analyses published in the Journal, but few of us realize that a certain effete though popular superstition is responsible for much of the enormous sale of the so-called female remedies. One of the mainstays of the quack medicine trade—and, indeed, one of the most curious things about it—is the huge demand for these female remedies or emmenagogues. It is absurd to suppose that these things are all taken for the purpose of procuring abortion, great as the demand for abortifacients unfortunately is. No, the great majority of the women who buy them do so not from any fear of conception, but because of an almost universal superstition that irregular menstruation should be treated like constipation. "If it stops, something must be taken to bring it on."

The history of medical theory throws a curious light on this belief as a folklore survival. For many ages menstruation was regarded as an excretion of poisonous material which was harmful to the woman if not got rid of, and when excreted still dangerous to animal life if accidentally absorbed or mixed with food. To the present day women during their periods are not allowed in certain wine factories and butchers' shops for this reason. This idea, though rejected by modern physiology, still rules the minds of most women, who accordingly look on amenorrhoea as they do on constipation. Just as they use aperients to secure a regular action of the bowels, so they think it a personal duty and even an act of cleanliness to fly to emmenagogues whenever they cease to menstruate. Such women imagine it is a primary necessity that the uterus and bowels should be periodically emptied.

If amenorrhoea occurs, they never dream of an underlying chlorosis, chill, or phthisis; and any bad symptoms or malaise produced by the disease are, of course, ascribed to the amenorrhoea itself. These patients' sole idea is to obtain an evacuant of the retained poison as they imagine it, and usually the first step taken is to buy a box of female pills, "to remove all obstructions." The money spent in this way appears to amount in the aggregate to incredible sums.

The important thing, however, is that if medical men would set themselves to root out this survival of an old superstition, the greater part of the income of the abortionist would vanish. If he lost the lucrative supply of enormous quantities of emmenagogues in ordinary cases where pregnancy is not in question at all, his profits would be so reduced that it would often not be worth while to carry on the purely criminal trade alone. We may, perhaps, go so far as to say that nothing would so quickly reduce the numbers of abortionists in this country as a general revolt against the fashion for emmenagogues. That fashion may be harmless in itself except that it leads people to overlook the real causes of amenorrhoea, but it does tend to develop facilities for criminal objects. The vendors undertake to remove "all obstructions." How that fashion can be attacked and the real teachings of physiology disseminated among the population is a matter for serious consideration. Certainly every general practitioner has opportunities for pointing out the folly of the continual drugging which goes on. Something, too, might well be done by health visitors and lecturers on physiology to get rid of the old idea of retention of a poison. In short, there is an opportunity here for a very useful social work.—I am, etc.,

May 25th. G. P.

ST. KILDA AND THE WESTERN ISLES.

Sir,—In an interesting account of a visit to St. Kilda in last week's issue of the Journal I note that your correspondent writes:

> To be dependent for medical advice upon the occasional doctor on holiday bent is the experience of but *one* community in the United Kingdom.

This may be correct now, but it was not so some years ago when I visited Fair Isle. At that time the inhabitants there had to rely "for medical advice on the occasional doctor on holiday bent," and I then drew attention in your columns to a case where a woman in childbed had her life saved by the natives flying signals to a steamer off the island and obtaining therefrom a "doctor on holiday bent." Fair Isle, I believe, has a population of over 100, and there are two lighthouses worked by Government employees. It is possible there is now a resident doctor, although his name does not appear in this year's *Medical Directory*. I remember Mr. Bruce, the owner of the island, whose hospitality I enjoyed at Sumburgh, told me that the whole of the rent roll from Fair Isle would not pay for the services of a resident doctor. I then contended that it was the duty of the Government to provide medical attendance for its employees there. As it is to be presumed that some of the inhabitants of Fair Isle will come under the provisions of the National Insurance Act, it is an interesting question how "medical benefit" can be afforded them in the absence of a resident doctor. A capitation fee of 6s. will certainly not provide it, and the furnishing of "medical benefit" to the inhabitants of some of the islands off the coast of Scotland will be a problem that will tax somewhat the ingenuity of the Scottish Insurance Commissioners.—I am, etc.,

London, June 1st. MAJOR GREENWOOD.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following degree has been conferred:

D.M.—E. A. Cockayne, Balliol.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.D.—F. P. Franklen-Evans.
M.B.—A. W. Bourne, E. A. Dyson, W. H. F. Eales, F. H. Watson.
B.C.—E. A. Dyson.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on May 15th.

Brown Animal Sanatory Institution.

The annual report for 1911 of the Superintendent of the Brown Animal Sanatory Institution, which was presented, stated that during the year 5,292 animals had been treated in the hospital as out-patients, and 634 as in-patients. The five lectures required under the will of the late Mr. Brown had been delivered by the superintendent, Mr. F. W. Twort, the subject selected being Johne's disease of cattle and the lepra bacilli of man and rats. A considerable number of bacteriological and pathological examinations had been carried out in the laboratory on material obtained from the hospital, the most important being the diagnosis of tumours and of various micro-organisms obtained from inflammatory processes. The report also gave a list of experiments at investigations carried out in the laboratories by different investigators.

Appointment of Representative.

The Vice-Chancellor announced that he had appointed Professor G. D. Thane, to represent the university, in respect of University College, at the bicentenary festival of the Medical School of Trinity College, Dublin, to be held in July, 1912, and Professor H. R. Kenwood as one of the representatives of the university in respect of University College at the annual conference of the Child Study Society held from May 9th to 11th, 1912.

Physiological Laboratory.

Dr. A. D. Waller, F.R.S., and Dr. Mears have been elected respectively Director and Treasurer of the Physiological Laboratory for the year 1912.

The report of the Physiological Committee for the year 1911 gave particulars of the various investigations which had been carried out during the year, and also a list of papers published, the outcome of work conducted in the laboratory during the year.

Report of Professor of Protozoology.

Professor Minchin's report for the year ending June 30th, 1911, contained particulars of investigations carried on and a list of works published from the University Department of Protozoology during the period. It also announced that Miss Muriel Robertson, who had been one of the assistants to the Department since the beginning of 1909, had resigned her appointment in May, 1912, in order to proceed to Uganda and undertake special researches upon the etiology of sleeping sickness and kindred problems.

Studentships and Prize.

The Lindley studentship of £100 will be awarded to a student qualified to undertake research in physiology, and will be held in the Physiological Laboratory. It will be awarded in every third year provided that a candidate of sufficient merit shall present himself.

A university studentship of the value of £50 for one year will be awarded to a student qualified to undertake research in physiology, and will be tenable in a physiological laboratory of the university or of a school of the university.

The regulations for the Paul Philip Reitlinger prize founded by Mr. Albert Reitlinger in memory of his son, who was a student at St. George's Hospital Medical School, and who died on December 3rd, 1911, were approved. The prize, which is of the value of £30, will be awarded in 1912 and every second year thereafter for the best essay embodying the result of some research work on a medical subject. In the alternate years the prize will be awarded for the best essay on a literary, historical, or philosophical subject.

Examinations.

The following candidates have been approved at the examinations indicated:

THIRD M.B., B.S.—*Honours.*—(*a*) E. P. Evans, University College, Cardiff, and London Hospital; (*b*, *c*) Maud F. Forrester-Brown, London (R.F.H.) School of Medicine for Women; (*c*) T. C. Graves, University College Hospital; (*a*, *University Medal*) P. H. Mitchiner, St. Thomas's Hospital; (*a*) D. B. Pascall, St. Bartholomew's Hospital; (*a*) H. Rowntree, Middlesex Hospital; (*a*) Catherine V. Turner, London (R.F.H.) School of Medicine for Women.

(*a*) Distinguished in medicine. (*b*) Distinguished in pathology. (*c*) Distinguished in forensic medicine.

Pass.—J. W. Adams, M. M. Adams, F. J. Anderson, Winifred Austin, G. Barratt, B. Blackwood, J. H. Campain, G. C. Chubb, W. C. Dale, J. L. Davies, A. F. W. Denning, J. R. B. Dobson, M. C. F. Easmon, A. Ferguson, N. F. Graham, A. S. Hahn, A. K. Hamilton, R. S. Harvey, F. J. Humphrys, E. L. Hunt, C. E. S. Jackson, W. H. Kauntze, H. G. Kilner, W. B. Laird, A. B. Lindsay, M. W. Littlewood, J. N. Mehta, E. S. Miller, H. A. Moody, R. N. O. Moynan, A. A. E. Newth, E. L. R. Norton, B. R. Parmiter, R. D. Passey, E. H. Roberts, K. Robinson, S. P. Rowlands, E. A. Seymour, B. S. Simmonds, A. H. Thomas, T. A. F. Tyrrell, F. S. Williams.

THIRD M.B., B.S. (*Group I only*).—Helen P. Barnes, F. C. W. Clifford, H. StC. Colson, Grace M. Cordingley, Gertrude Dearnley, C. A. Hewavitarna, H. W. Hills, A. H. Hudson, G. W. B. James, M. M. Khan, W. Matthews, P. T. Patel, Sara L. Penny, H. R. Prentice, G. F. Rigden, F. Sanders, W. W. Wood, (*Group II only*).—C. Aldis, C. H. Attenborough, H. W. Batchelor, Florence H. Bousfield, B. W. Brown, B. I. Cohen, T. P. Cole, W. H. Eggar, F. W. Hamilton, A. W. Hansell, A. W. Havard, R. G. Hill, B. W. Howell, R. H. Liscombe, G. H. Pearson, J. Potter, W. F. V. Simpson, H. K. V. Soltau, J. Tattersall, T. D. Williams, E. A. Wilson.

UNIVERSITY COLLEGE.

Guild of Graduates.

The University College Guild of Graduates came into existence at the beginning of this year. Its general policy is to act as a binding force in the university, but as the membership must be scattered it is proposed to issue a *Bulletin* whenever the various activities of the university present special interests to its graduates, and though information with regard to noteworthy academic controversy will be embodied in this publication, the Guild will carefully avoid taking any active part in controversial matters. All those who have graduated at the University of London from University College are eligible for membership, but it is not the intention of the Guild to make any invidious distinction between the internal and external departments of the university. Membership is therefore open to graduates who have worked for their degree wholly or in any considerable part at University College. The Guild, as soon as funds are available, proposes to form a register of old students sufficiently full to give graduates an idea of what their fellows are doing and what interests they are pursuing. The Master of the Guild is Sir Victor Horsley, Miss E. N. Thomas is the Science warden, Dr. H. Frank Heath the Arts warden, and Mr. Raymond Johnson the Medical warden. To the first number of the *Bulletin* the Medical warden contributes a note on medical graduates and the Guild. He expresses the hope that his fellow medical graduates who received a part or the whole of their training in University College will not be behindhand in giving all the support in their power to the Guild, thus taking their share in making the University of London a living reality.

Entrance Scholarship and Exhibitions.

The examination for the Bucknill Entrance Scholarship of the value of 135 guineas and for the two Exhibitions of the value of 55 guineas each, tenable in the Faculty of Medical Sciences at University College, will be held this year and till further order in July, and not, as in previous years, in September. The subjects of the examination are chemistry, physics, botany, and zoology. Notice of intention to compete must reach the Secretary of the College not later than Tuesday, July 9th.

UNIVERSITY OF EDINBURGH.

Degrees in Veterinary Science.

UNDER an Ordinance, which has now received the approval of His Majesty in Council, students may obtain the degrees of Bachelor of Science and Doctor of Science in Veterinary Science. It is provided that attendance at the Royal (Dick) Veterinary

College, Edinburgh, shall qualify *pro tanto* for admission to the university examinations for the degrees. The founder of the college, Mr. William Dick, bequeathed the college buildings for the use of the public, while his sister left her fortune to endow a chair of physiology in the college, and also a chair of comparative anatomy in the University of Edinburgh. In 1905 these endowments were supplemented by a donation of £15,000 from Mr. MacCullum, M.R.C.V.S.Edin., for the purpose of founding a chair of pathology, and lately he gave £10,000 towards the building of the new college. The college buildings in Clyde Street have outgrown the needs of the institution, and it is hoped that before long a commencement will be made with the erection of an up-to-date college at the east end of the Meadows. The sum of £4,000 is urgently required to secure the £25,000 promised by the Government.

NATIONAL UNIVERSITY OF IRELAND.
UNIVERSITY COLLEGE, DUBLIN.

THE following were among the degrees conferred on May 25th:

M.B., CH.B., B.A.O.—H. F. Moore, M. D. Staunton, T. J. Kilbride, A. J. Dempsey, J. C. Denvir, D. J. Foley, M. J. Gallagher, L. J. E. M'Hugh, T. J. R. Maguire, D. Murphy, T. G. Rothwell, J. M. Rowe.

In connexion with the opening examinations in the Faculty of Medicine first class exhibitions of £20 each and first honours have been awarded to H. F. Moore, J. G. J. Green, and P. J. Smyth; and second class exhibitions of £10 and second honours to M. J. Staunton and Mary C. McKenna; and a corresponding exhibition and first class honours to E. H. Coyne.

Medico-Legal.

VERBAL REPORTS TO POLICE (SCOTLAND).

MORVEN, ABERDEENSHIRE.—Our correspondent's position is perfectly clear; he should absolutely refuse to give a verbal report to the police; he is under no legal obligation to do so. He would have great difficulty in extracting a fee from the police for verbal reports. If a report is required, let the Procurator Fiscal ask for a written one, the fee for which is one guinea. This report, as our correspondent may already know, should be given "on soul and conscience."

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

A COUNCIL meeting of this association was held at 34, Copthall Avenue, E.C., on May 30th. Dr. Balding, J.P., was in the chair, and the President of the association (Surgeon-General Evatt, C.B.) was also present.

District Secretaries.—With regard to the appointment of district secretaries in different parts of the country, the Honorary Secretary reported that Dr. Allen, of Liverpool, had consented to act, and that Dr. Ellis, of Salisbury, had promised to do his best to recruit members in his district. The council resolved that a list of district secretaries should be drawn up, and published in the *Poor Law Medical Officer*, to improve the organization of the association.

Poor Law Officers' Association.—A letter was read from Mr. Shirley Fussell reporting that the case of Dr. Todd and the Winchester guardians had been before the executive of the National Poor Law Officers' Association, and was to be further considered at its next meeting in June. He desired to be informed of any further particulars. The Honorary Secretary said the British Medical Association had the matter still in hand. Mr. Shirley Fussell had sent also six copies of the report of his council on the recommendations of the conjoint conference of Poor Law officers on the recent report of the Royal Commission on the Poor Laws. It was pointed out that, beyond condemning the medical recommendations of the Commissioners, the council of the National Poor Law Officers' Association had passed over all the suggested reforms in the Poor Law medical service that had been recommended by the conjoint conference. After some discussion, it was resolved that a letter be written to the Secretary of the Poor Law Officers' Association expressing regret that the recommendations of the conference had not been adopted in its report.

Special Fees for Fractures.—A letter was read from a member, asking for advice under the following circumstances: He had attended to two cases of compound fracture in Poor Law patients. Under Art. 177 of the Gen. Ord., July, 1847, he was entitled to £5 for each of these cases if he had treated them throughout their whole course, but they had been taken out of his hands after being under his care for a week, and he had been offered by his guardians a fee of £1 in each case. Was he compelled to accept such payment? The council unanimously condemned this offer as being mean in the extreme. Art. 177 specially ordered that half the fee should be paid in cases of operations coming under that Order where the patient had died within thirty-six hours. At least half the fee should be paid in such cases. It was resolved that the member be advised to ask the guardians to pay him half the regular fees, and, in event of refusal, to go to the Local Government Board. Failing satisfaction, the propriety of taking the case into the county court ought to be considered. It was not certain that the whole fee might not be claimed, as the cases had been taken out of the medical officer's hands.

Treatment of School Children.—Letters were read from two other members, complaining of attempts made by the guardians to include among their duties the attendance on school children found defective on examination with regard to the removal of adenoids, etc. In the case of one, however, it seemed likely that the guardians would pay extra for such treatment. It was resolved that all Poor Law medical officers be advised to resist in every way the imposition of such duties without special payment for the same.

Bristol Meeting.—The council finally took into consideration the special arrangements for the Bristol meeting.

LOCAL GOVERNMENT BOARD REPORTS.

Willington Urban District.—Dr. Carnwath's report to the Local Government Board (New Series, No. 59) is concerned more particularly with an outbreak of typhoid fever which occurred in 1909 and the first half of 1910 in Oakenshaw, a colliery village situated in the urban district of Willington, co. Durham. The population of the village is about 1,280; altogether 74 cases occurred and 7 terminated fatally. Dr. Carnwath found that nearly all the cases were in houses supplied with milk from one farm. The wife and son of the farmer alone had anything to do directly or indirectly with the handling of the milk. In 1908 the son had an illness described as a bad cold which had "struck in," causing inflammation of the lungs and bowels. In August, 1910, the urine and faeces of the wife and son were examined for typhoid bacilli, with negative results as regards the son and positive with respect to the wife. At a later date typhoid bacilli were found to be still present in her faeces. No history of sickness could be obtained from her beyond a "bad bilious attack about four years ago." The outbreak subsided before its obvious cause was discovered and before the farmer's wife had been forbidden to have anything to do with the milk or milk vessels.

Blaenavon Urban District.—The report (New Series No. 62) which Dr. Morgan Rees has made to the Local Government Board on the urban district of Blaenavon, in the county of Monmouth, is not the first which has been made to the Board on this district. In 1895 the late Mr. T. W. Thompson reported upon the unsatisfactory conditions he found with respect to sewerage and house drainage, sewage disposal, excrement and refuse disposal, and water supply. Little appears to have been done in the interval to remedy those conditions, and Dr. Rees expresses the opinion that the urban district lacks those essentials of good sanitary provision and management which when combined do so much to make the life of a community happy and contented. The report bears testimony on almost every page to the neglect of the sanitary authority to carry out its duties. By-laws and regulations have been adopted for various purposes, but little or no attempt has been made to enforce their provisions, with the result that Dr. Rees has to tell of filthy slaughter-houses, a dark, ill-ventilated and dirty common lodging-house, badly paved, dirty, ill-lighted and unventilated cowsheds, and housing conditions such as might be expected to be found within the area of administration of so neglectful an authority. The recommendations which are made in the report are all well considered and do not err on the side of extravagance.

The Services.

UNIVERSITY OF LONDON OFFICERS' TRAINING CORPS.

THE third annual report of the Military Education Committee shows that the Officers' Training Corps has taken firm hold in the University of London. The total strength of officers, N.C.O.'s, and cadets is 926, made up of artillery, engineer, infantry, Army Service Corps, and medical units.

The medical unit, which is organized in four field ambulance sections, has 9 officers and 270 cadets drawn from the London medical schools. Looking down the table giving the number of cadets from the different schools, one cannot help being struck by the fact that some of them have not contributed their quota to the contingent, and we hope that by the time the next report is published this will have been rectified.

Among the events of the year the inspection by His Majesty the King at Windsor takes the first place, and the contingent is proud to have received special commendation from His Majesty. The report of General Sir John French after inspecting the contingent is also very satisfactory.

Other events to be recorded are the annual dinner, at which Lord Haldane was present and proposed the toast of the contingent, and the opening of more commodious head quarters at South Kensington by Colonel Seely.

The Handbook of the University of London Officers' Training Corps for the year 1911-12 gives a detailed list of the officers, N.C.O.'s, and cadets of the various units and also a summary of the important regulations of the Officers' Training Corps. In

addition, numerous hints are given to cadets on details which are likely to be overlooked. The *Handbook* forms a most useful guide to all those connected with the Officers' Training Corps.

THE HOME COUNTIES DIVISION (T.F.).

THE officers of the R.A.M.C.(T.), the Home Counties Division, dined together at the Grand Hotel on May 15th under the chairmanship of Colonel C. Pye Oliver, who was recently in command of the 1st Home Counties Field Ambulance, and is now Assistant Director of Medical Services. The guests of the evening were Colonel J. Turton, V.D., late Administrative Medical Officer, Home Counties Division, and Lieutenant-Colonel J. J. de Zouche Marshall, V.D., late Officer in Command, 3rd Home Counties Field Ambulance.

OPENING OF R.A.M.C. DRILL HALL, CARDIFF.

THE new drill hall of the 2nd Welsh Field Ambulance, commanded by Lieutenant-Colonel William Sheen, was formally opened on June 1st by Sir Launcelot Gubbins, K.C.B., M.V.O., Director-General of the Army Medical Service. A successful smoking concert, at which the Director-General was present, was held in the evening.

INDIAN MEDICAL SERVICE.

The Equipment of Indian Field Ambulances.

A COMMITTEE consisting of Colonel Cobbe, V.C., Major Muscroft (Supply and Transport Corps), Colonel Robinson (Principal Medical Officer, First Division), Major Jay Gould, I.M.S., and Major Gunter, R.A.M.C., assembled at Simla in May to revise the equipment of Indian Field Ambulances in accordance with the experience of recent wars. Surgeon-General Sloggett, C.B., C.M.G., was in the chair, and Lieutenant-Colonel Bruce Seton, I.M.S., acted as Secretary of the Committee.

The Medical Branch of Indian Army Head Quarters.

In conformity with the recent decision of the Army Council the Government of India has sanctioned the following changes in the designation of the medical officers of the Army Head Quarter staff.

The Principal Medical Officer, His Majesty's Forces in India, becomes the Director of Medical Services, Army Head Quarters, India.

The Deputy Principal Medical Officer, His Majesty's Forces in India, becomes the Deputy Director of Medical Services, Army Head Quarters, India.

The Secretary to the Indian Medical Service becomes the Assistant Director of Medical Services (India Service).

The Secretary to the Royal Army Medical Corps becomes the Assistant Director of Medical Services (British Service).

The Sanitary Officer becomes the Assistant Director of Medical Services (Sanitary).

The Sanitary Commissioner with the Government.

The Government of India has appointed Major J. C. Robertson, I.M.S., Sanitary Commissioner, Lucknow, to be Sanitary Commissioner with the Government of India. He will be administratively subordinate to the Director-General, Indian Medical Service.

Obituary.

HENRY WHITAKER, M.D., M.R.C.S., D.P.H., R.C.S.I.,

LATE MEDICAL SUPERINTENDENT OFFICER OF HEALTH, BELFAST.

WE regret to announce the death of this well-known and highly respected member of the profession. Dr. Whitaker had a long and varied career. He was born in 1833 in Belfast, and entered the old Queen's College in 1854, having as class-mates the late Sir William MacCormac and Dr. McCrea. He served his apprenticeship also with Mr. John Grattan as a chemist, and became a licentiate apothecary in 1856, and entered into partnership with the late Mr. W. J. Wheeler. Subsequently he graduated as M.D. in the Queen's University, and obtained other degrees. He became a member of the City Corporation in 1869, first as Councillor, and three years later as Alderman for St. George's Ward. He devoted much time to public health work, and after twenty years' service was, in 1890, appointed Medical Superintendent Officer of Health, and discharged the duties of this office for sixteen years. During this time the population of the city grew from 230,000 to 360,000, and many sanitary difficulties had to be contended with. He was always most courteous, helpful, and ever ready to visit where dangers were greatest. He enjoyed the respect and affection both of his staff and of the profession. He was an ex-President of the Ulster Medical Society, and Lecturer on Sanitary Science in the Queen's College.

He leaves a widow and large family, with whom much sympathy is felt; the six sons have all risen to distinction in law or medicine.

HIS numerous friends in India, as well as elsewhere learnt with deep regret of the death, immediately after his arrival home on eight months' leave, of Surgeon-General M. W. KERIN, C.B., P.M.O. of the 8th (Lucknow) Division. The late Surgeon-General was born in 1856, and received his medical education in Dublin. He entered the Army Medical Service in 1880, and first saw active service with the Burmese expedition of 1885–6. A long period of peace service ensued, until the outbreak of the South African war found him with the troops in Northern Natal. He took part in the energetic operations conducted by Sir George White, and was present at the action of Telana, finally being one of the gallant garrison which was invested in Ladysmith. His services were twice mentioned in dispatches by Sir George White. In 1903 Surgeon-General Kerin was on the North-West Frontier of India, and accompanied the Zakka Khel expedition, again winning distinction of mention in dispatches. Only two years ago his long and valued services were rewarded with the bestowal of Companionship of the Bath. He was promoted Surgeon-General in March last.

Medical News.

THE annual athletic meeting of the United Hospitals Athletic Club will take place on Tuesday, June 11th, at the Stamford Bridge Athletic Ground.

A DISTRICT CENTRE of the St. John Ambulance Association has been formed at Maymyo under the presidency of the Lieutenant-Governor of Burma. Colonel Hehir, P.M.O. Burma Division, is honorary secretary.

THE Cavendish Lecture before the West London Medico-Chirurgical Society will be delivered by Professor Karl Pearson, F.R.S., on Friday, June 21st, at 8.15 p.m. in the Town Hall, Kensington. The subject is Darwinism, medical progress, and eugenics.

The following prizes are offered for open competition by the International Tuberculosis Society: £20, £4, and £2, besides gold and silver medals. Manuscripts must be sent before December 1st, 1912, to the General Secretary, Dr. Georges Petit, 45, rue du Rocher, Paris.

WE have received from Messrs. W. and G. Foyle, of 135, Charing Cross Road, W.C., a copy of their nineteenth book catalogue, its special feature being that all the books described therein are new copies which they have for sale at unusually low prices. The books cover topics of almost every kind.

THE latest catalogue issued by the De Dion Bouton firm relates to its output of vehicles for commercial purposes. These include taxicabs, omnibuses, fire engines, watering wagons, and sweeping machines. The catalogue, which is freely illustrated, can be obtained on application. Also shown are the searchlight, commissariat, and gun-carrying wagons made by the firm for the French army.

THE annual dinner of the Royal Army Medical Corps will take place on Monday, June 17th, at the Trocadero Restaurant, Piccadilly Circus, W., at 8 p.m., under the chairmanship of the Director-General. Officers intending to be present are requested to communicate with Major E. T. F. Birrell, R.A.M.C., Honorary Secretary of the Dinner Committee, 12, Sutherland House, Cheniston Gardens, Kensington, W.

DR. ALEXANDER MORISON will give a course of lectures on the nature and treatment of sensory and motor diseases of the heart, at the Great Northern Hospital, Holloway Road, on Tuesday, June 11th; Friday, June 14th; and Tuesday, June 18th, at 5 p.m. on each day. The course will be illustrated by lantern slides and microscopic sections, and the attendance of medical practitioners interested is invited. The hospital can be reached by tube railways to Highgate or Holloway Road stations.

UNDER the auspices of the National Bureau for Promoting the General Welfare of the Deaf, Dr. James Kerr Love, of Glasgow, is to deliver two lectures at the Royal Sanitary Institute, the first dealing with the nature and consequences of deafness, and the second with the classification of deafness and the prevention of acquired deafness. The date of the first lecture is Tuesday, June 11th, at 5.30 p.m., when Sir Frederick Milner, P.C., will preside. The date of the second lecture has not yet been fixed.

DR. LOUIS L. WILLIAMS, of Boston, U.S.A., has published (*Boston Med. and Surg. Journ.*, May 16th, 1912, p. 738) a report of a case in which he gave an intravenous injection of 0.6 gram of salvarsan to a mulatto aged 22, subject to syphilitic orchitis, with other secondary lesions. Considerable constitutional disturbance followed, vomiting, high temperature and coryza being marked. On the third day, when the temperature had fallen within forty-eight hours from 50° to 38°, a typical measles eruption developed. Koplik spots were seen on the buccal mucosa, and the conjunctivae were injected. The temperature fell to normal within two days. Dr. Williams observes that the injection was given a few hours before the unexpected onset of measles, and the result, in his opinion, implied that salvarsan does not affect the development and course of that disease. In the view of the antagonism of salvarsan to some of the pathogenic protozoa, the coincidence observed in this case may have some bearing on the question of the nature of the organism concerned in the causation of measles.

THE annual meeting of the Society for Training Teachers of the Deaf on the Pure Oral System was held on May 29th at 33, Cavendish Square, by kind invitation of Mrs. and Dr. H. E. Symes Thompson. Mr. B. St. John Ackers presided, and the adoption of the report (presented by the Rev. A. S. Thompson, B.D.) was moved by the Vicar of St. Mark's, North Audley Street, and seconded by Dr. G. E. Shuttleworth. The report expressed the hope that the working alliance in contemplation between the Ealing and Fitzroy Square Colleges would be carried into effect before long. Reference was made to the lectures on anatomy and physiology given by Mr. Macleod Yearsley to the students of both colleges, and to the certificates of teaching qualifications issued by the joint examination body. It was stated that the supply of trained teachers for the deaf was still insufficient to meet the demand, and a hope was expressed that more liberal Government aid might be granted towards the necessarily heavy expense of complete training. Lip-reading lessons had been given not only to children but to adults with advancing deafness, and had proved of signal benefit. The balance sheet showed some improvement on preceding years, but there was still need for more generous financial support to carry out fully the objects of the society, which had recently included the free training of teachers for service in India under the Church Missionary Society. After an eloquent address by Mrs. Rose, who proposed the reappointment of the committee, on the pitiable condition of the uninstructed deaf and the invaluable benefits they received from oral training, the meeting concluded with votes of thanks, in which emphatic reference was made to the immense services rendered to the society by the late Dr. E. Symes Thompson.

THE Insurance Commissioners are issuing with rapidity a number of official explanatory leaflets, some of them brief statements in popular language of the provisions of the Act, others in the form of questions and answers. The object of the series is said to be to express in a simple way, for the benefit of persons eligible to become insured, the chief provisions of the Act with regard to various subjects; attention is confined to such main points as can be dealt with in short leaflets, and the various legal limitations, exceptions, etc., that would properly be found in a complete statement of the provisions of the Act are not set out in full. The reader is warned that it must be clearly understood that nothing in any of the leaflets is to be regarded as determining any of the questions still to be decided under the Act, whether by the Commissioners or others. Of these leaflets, the majority are concerned with general questions with regard to the approval of friendly societies, dividing societies, trade unions, and slate clubs, and the advantages of joining an approved society; two are specially devoted to the position of women, and one to domestic servants. In the leaflet on voluntary contributors it is clearly stated that any person who has once become a voluntary contributor, and has completed five years of insurance, may continue to be a voluntary contributor, whatever his income, and whether earning his own living or not. It is pointed out that it will be of considerable advantage to the insured person to become a voluntary contributor through an approved society before January 15th, 1913; if under 45 he will pay only 7d. per week (women 6d.), if over 45, rather more, but not so much as if he joined after January 15th, 1913. It is added that a voluntary contributor will cease to pay contributions after the age of 70, but he will remain entitled to medical benefit. In another leaflet it is stated that medical benefit includes medical treatment and medicine for the insured person, and certain kinds of surgical appliances.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

E. R. C. asks for reference to any literature or statistics showing the relation (if any) between the presence of goitre and premature birth.

SCHOOL MEDICAL OFFICER asks for information as to elementary schools constructed on the pavilion system, that is, each class room with its cloak-room, etc., forming a separate building.

W. asks whether it is worth while suturing a complete rupture of the perineum, first seen fourteen days after delivery, or whether it would be better to wait, and do a flap-splitting operation later.

No. 205 would like to know the best way of preventing or combating thiosinamin poisoning. He means the symptoms—rigor, fever, chill, etc.—which sometimes follow the administration of this drug.

PUZZLED has a lady patient, aged 20, who is unable to take a cold bath on account of the intolerable itching which comes on about ten minutes afterwards and lasts for about one hour. She is able to take a hot bath, using water from the same source, without any unpleasant results. The water used for the bath is hard and alkalis have been tried to soften it, but without any effect. He would be glad of suggestions in the way of treatment.

Mr. ADAIR-DIGHTON, F.R.C.S. (Liverpool), writes in reply to "Eustachius": The prognosis of the case of tinnitus aurium reported depends entirely on the curability, or otherwise, of the chronic posterior nasal catarrh. This point can only be settled by naso-pharyngoscopic examination. There may be bands, or adhesions, causing obstruction or undue patency of the Eustachian tube, or else there may be a chronic hyperplasia dependent on the gouty diathesis. Chronic post-nasal catarrh includes so many pathological pictures that the only certain method of diagnosis, and so of prognosis, is by means of the naso-pharyngoscope. With this instrument a detailed examination and a positive diagnosis can be made and a definite prognosis given, none of which are possible by any other method.

LETTERS, NOTES, ETC.

"ST. KILDA."

IN the article entitled "St. Kilda," which was published in the BRITISH MEDICAL JOURNAL of June 1st, there is a misprint at p. 1250, line 15 from the top of the left-hand column. It should read "forty-one *males*," giving a majority of one to the male population of the island.

PUERPERAL ECLAMPSIA.

DR. D. N. COOPER (London) writes: In puerperal eclampsia one vital point in the treatment is the elimination of the toxin. Free purgation is an aid. The second aid is to keep the patient in a bath of perspiration. This can be done easily by rigging up an apparatus to carry hot air or steam tubes under the blankets, and the temperature regulated by thermometer by the nurse, who should be in constant attendance. Diluents should be freely given, if not by the mouth by rectal injection. The great point is to keep up a Turkish bath till the kidneys secrete the normal quantity of water.

ORGANIZATION OF POST-GRADUATE INSTRUCTION.

DR. R. LUCIUS WOOD (Huyton) writes: Would it be possible for the British Medical Association to organize a scheme whereby each member would be enabled to attend at least one month's post-graduate tuition each year? Such a scheme would, no doubt, be a complicated one to arrange and carry out, and would involve an extra subscription; but it would, on the other hand, raise the standard of medical practice in this country and, incidentally, enhance the value of the medical practitioner in the eyes of the public.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.